Transportation Profile

Introduction

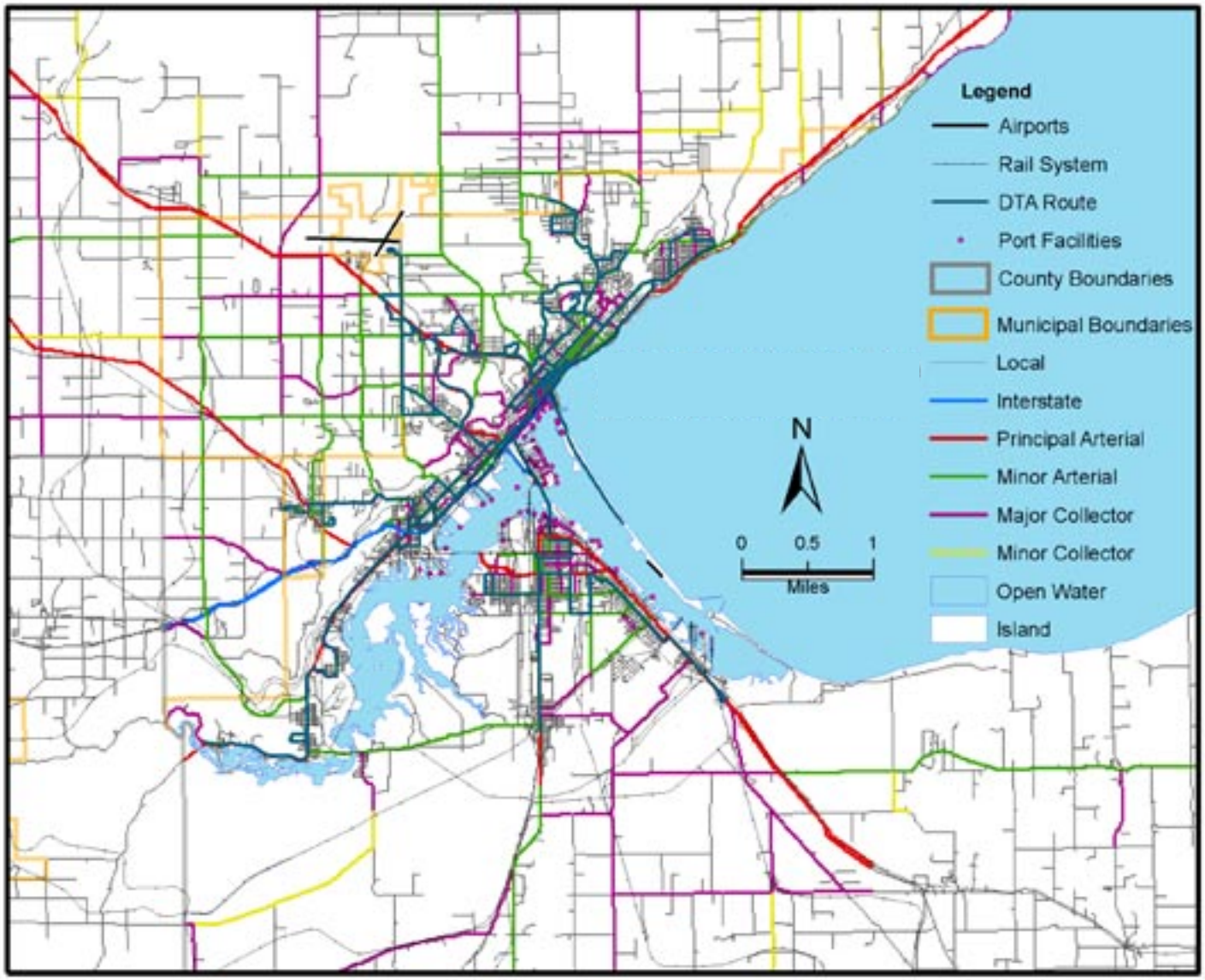
A primary physical, social and economic feature of the City of Duluth is the transportation system. This section of the background report profiles the existing transportation system and planned investments in expansion and maintenance of the transportation system. The base text of this profile was developed by city staff and consultants under the 2001City of Duluth comprehensive planning effort.

This background profile also draws from the draft Duluth/Superior Long Range Transportation Plan: Mobility for People and Freight 2030 authored by the Duluth-Superior Metropolitan Interstate Council, dated June 15, 2005. This report shall be referred to in this profile as the "MIC Plan". The plan provides great detail on the historical development of the Twin Ports transportation system; the current status of the system; future transportation system goals and objectives; and recommendations for system improvement. The Long Range Transportation Plan was developed in a collaborative process involving the cities of Duluth, Hermantown, Procter, and Superior; surrounding townships; Douglas and St. Louis Counties; and the Minnesota and Wisconsin Departments of Transportation. The plan meets federal transportation planning goals including economic productivity, user safety, accessibility, multiple modes, and energy conservation.[1]

The Metropolitan Interstate Council (MIC) is the Metropolitan Planning Organization (MPO) for the Duluth/Superior region. MPO's are federally-authorized organizations charged with coordinating regional transportation planning and federal road improvement funding. A Transportation Advisory Committee (TAC) with local government representation advises the MPO in creating regional transportation goals and priorities. In addition to regional planning, the City of Duluth creates a Street Improvement Plan (SIP) to plan for local transportation needs.[2]

[1] Duluth-Superior Metropolitan Interstate Council, Duluth-Superior Long Range Transportation Plan: Mobility for People and Freight 2030, Arrowhead Regional Development Commission (ARDC) and the Northwest Regional Planning Commission, Pages 1-10 (DRAFT June 15, 2005). This document is available at www.ardc.org/mic or from ARDC, 221 West First Street, Duluth, MN, 55802.
[2] ibid

Figure TR-1: Duluth Regional Road Transportation System



Source: *MIC, 2005*

The current transportation system in the City of Duluth consists of:

- Local streets, State and Federal highways
- Pedestrian ways
- Bicycle facilities
- Local and inter-city transit
- Airports
- Rail freight lines
- Maritime facilities

The remainder of this background profile describes the history, current status and planned improvements for each of these transportation elements.

Local Streets, State and Federal Highways

The geologic features of the City of Duluth, including an eight-hundred foot rise in elevation, present challenges in the creation of a transportation system. The arrival of French explorers in the late 17th and early 18th centuries, and a brief prominence of the area in fur trading, focused transportation to the waterways, but on a small scale. A large influx of European immigrants in 1869 was partly in response to advertisements by the Lake Superior and Mississippi Railroad Company for workers, but also created a greater demand for roadway improvements. The construction of the Lake avenue viaduct was completed in 1892. In 1919, the Fond Du Lac Bridge (Highway 23) was built as a promotion for the St. Lawrence Seaway, which eventually linked the Great Lakes to the Atlantic Ocean.

Other major roadway development included the Miller Trunk Highway(TH 194-53), completed in 1922, connecting the area to the Mesabi Range, and the North Shore Highway (TH 61) which provided a connection to Canada in 1925. Bridges play a major role in Duluth's transportation system. Park Point residents gained better access to the mainland when the Aerial Bridge became a lift bridge in 1930. More recently, in 1961, the Blatnik bridge was completed. The bridge upgraded the link between Duluth and Superior. Mesaba Avenue was completed in 1971, and Miller Hill Mall opened in the summer of 1974. The Miller Hill corridor has become a popular location for new businesses.

Duluth's vital and multi-modal downtown

The Richard I. Bong bridge is a landmark feature, and an important transportation link for the City of Duluth

The State and Federal highway system in Duluth is influenced by the seaway port and connections from there to economic commodity centers in the interior of Minnesota. Intermodal links with the harbor have become extremely important. Interstate 35 (I-35) is a significant link for the twin ports extending 1,593 miles from Duluth's 26th Avenue East to the U.S./ Mexican border at Laredo, Texas. The final 3.2 mile stretch, from Lake Avenue to 26th Avenue East was completed in 1992, after seven year of construction at a cost of over $200 million.

North Shore tourism also influenced the State and Federal highway system

A safe and efficient network of roads is essential for moving goods and people within and through the Duluth-Superior metropolitan area. The Duluth-Superior metropolitan area has over 1,000 miles of roadways that connect people to jobs, carry trucks loaded with goods, and connect tourists to local attractions. The City of Duluth, alone, has approximately 350 miles of roadways.[3]

Roadway functional classifications

Roads serve a variety of functions and are classified by how they are used - their functions. The functional classification system is used nation-wide to provide consistency in transportation planning. The functional classifications assist state, county and local jurisdictions in setting maintenance and management priorities. The functional classifications are based on anticipated traffic volume, access, and service area, they are; interstate highways, other freeways and expressways, principal arterials, minor arterials, major collectors, and minor collectors. The roads carrying the largest traffic volumes in urban areas make up the arterial system. The arterial system includes the interstate and freeway system, principal arterials, major arterials, and minor arterials. Roads serving localized areas and carrying lesser traffic volumes make up the collector system which feeds into the arterial system. The collector system includes major and minor collectors.)

Maps TR-3 through 5, starting on page 5, illustrates the locations within the Duluth-Superior area of roadways by functional classification.[4] The following paragraphs use the functional classification system to briefly describe the components of the City of Duluth transportation system.

Figure TR-2: City of Duluth Roadway Mileage by Functional Classification

Functional Classification	Total Mileage in the City of Duluth
Interstate Highway	11.6
Other Freeways/Expressways	1.0
Principal Arterials	27.3
Minor Arterials	85.9
Major and Minor Collectors	74.3
Local Streets	327.6
Total	527.6

[3]Mlakar, Pat, Transportation Engineer, City of Duluth, August, 2005.
[4] *Duluth-Superior Long Range Transportation Plan: Mobility for People and Freight 2030*, (DRAFT June 15, 2005), page 141.

Figure TR-3: Duluth Functional Classification, West Planning Area

Figure TR-4: Duluth Functional Classification, East Planning Area

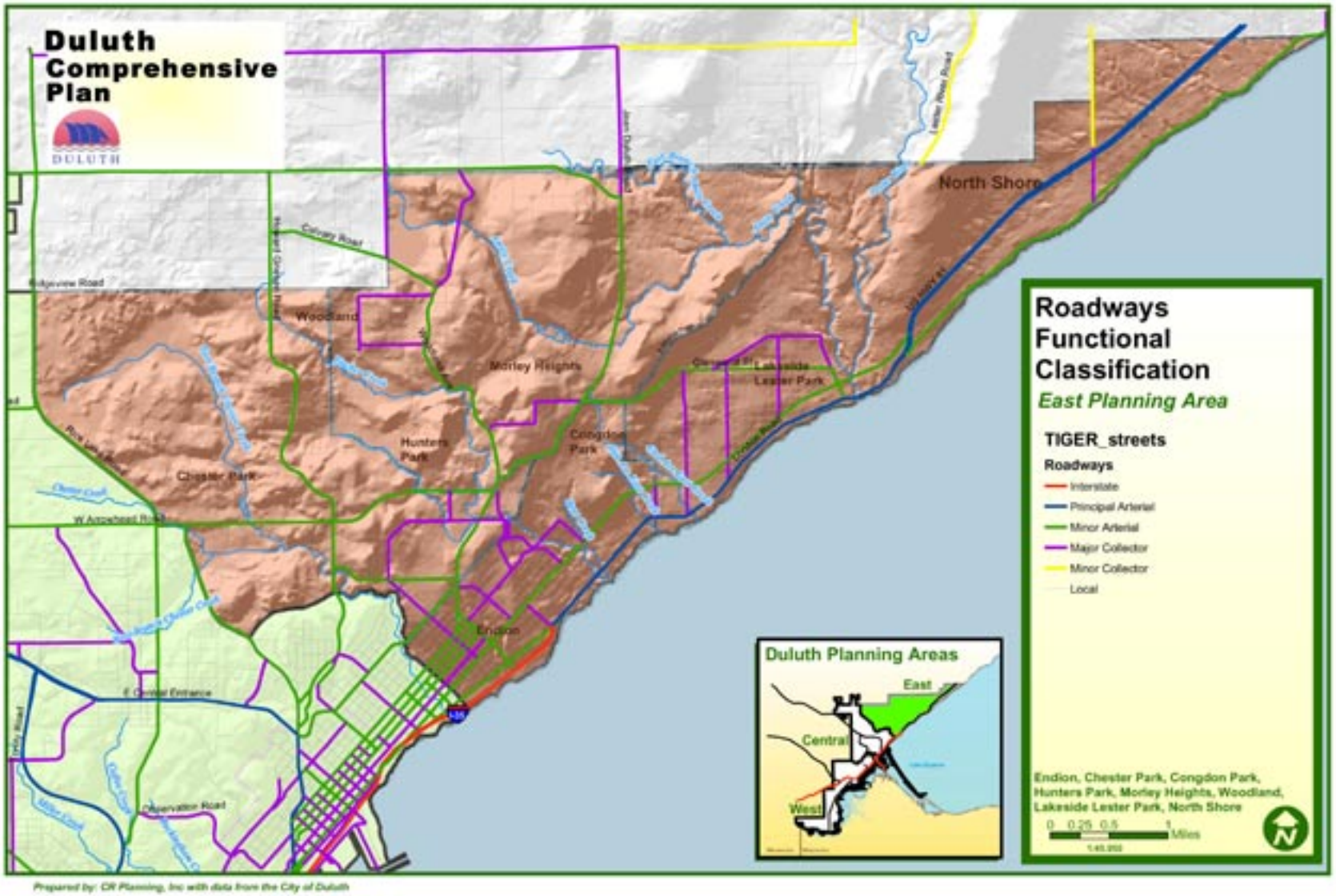
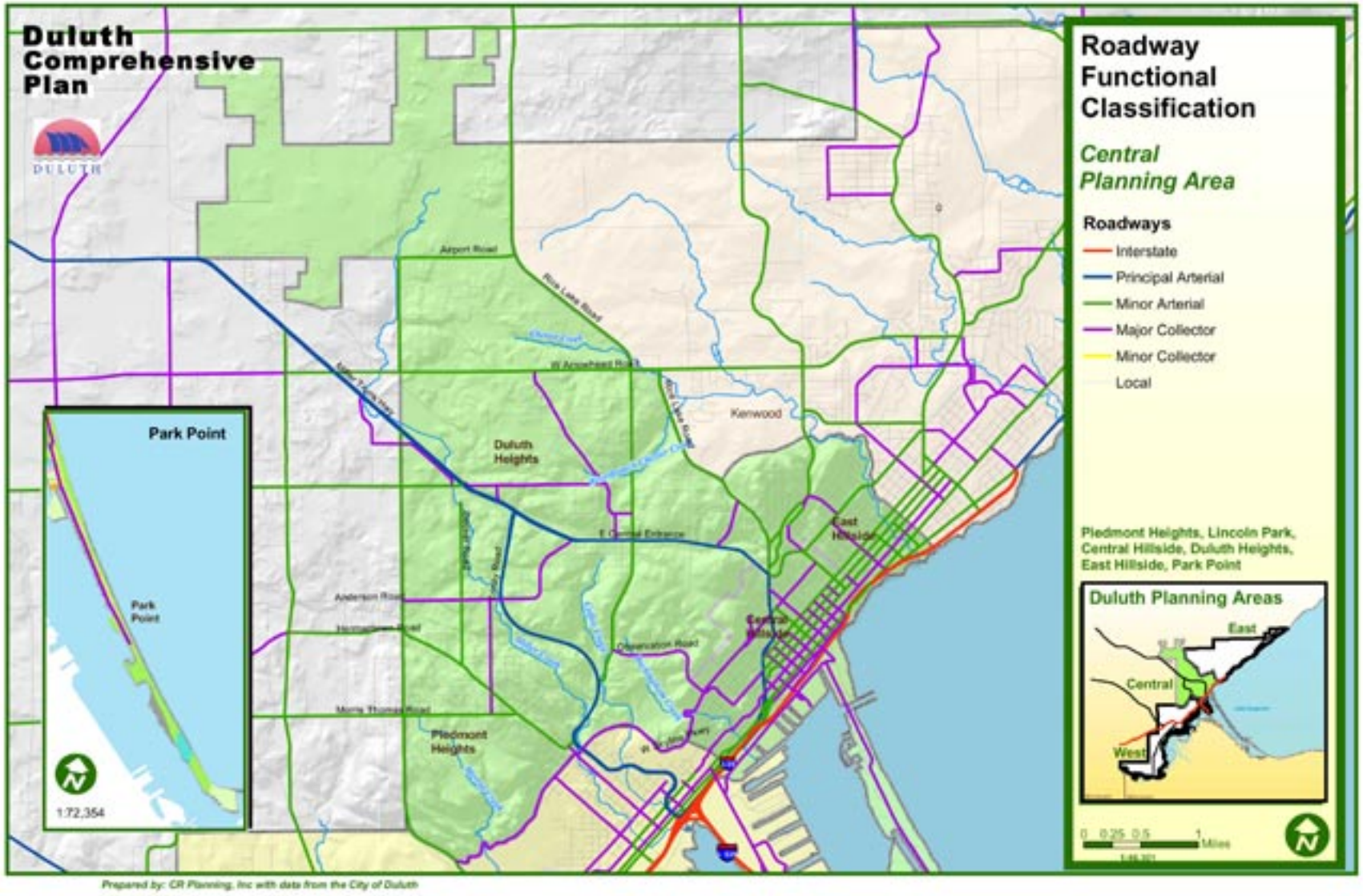


Figure TR-5: Duluth Functional Classification, Central Planning Area



The intersection of two major arterials, Hwy 53 and Trinity Road, near Miller Mall

One of Duluth's tree-lined local streets.

Interstate highways are designed for optimum safety and efficiency by moving high volumes of traffic at high speeds. Essential components of an interstate highway are grade separations, medians, ramp connections for entering and exiting traffic, and full control over access from property adjacent to the highway. The interstate system in Duluth consists of I-35 and I-535.

Other *limited access freeways and expressways* have the same design features as interstate highways, but are not part of the U.S. Interstate System. The only other limited access highway in the Duluth area is the Bong Bridge, which is part of U.S. Highway 2.

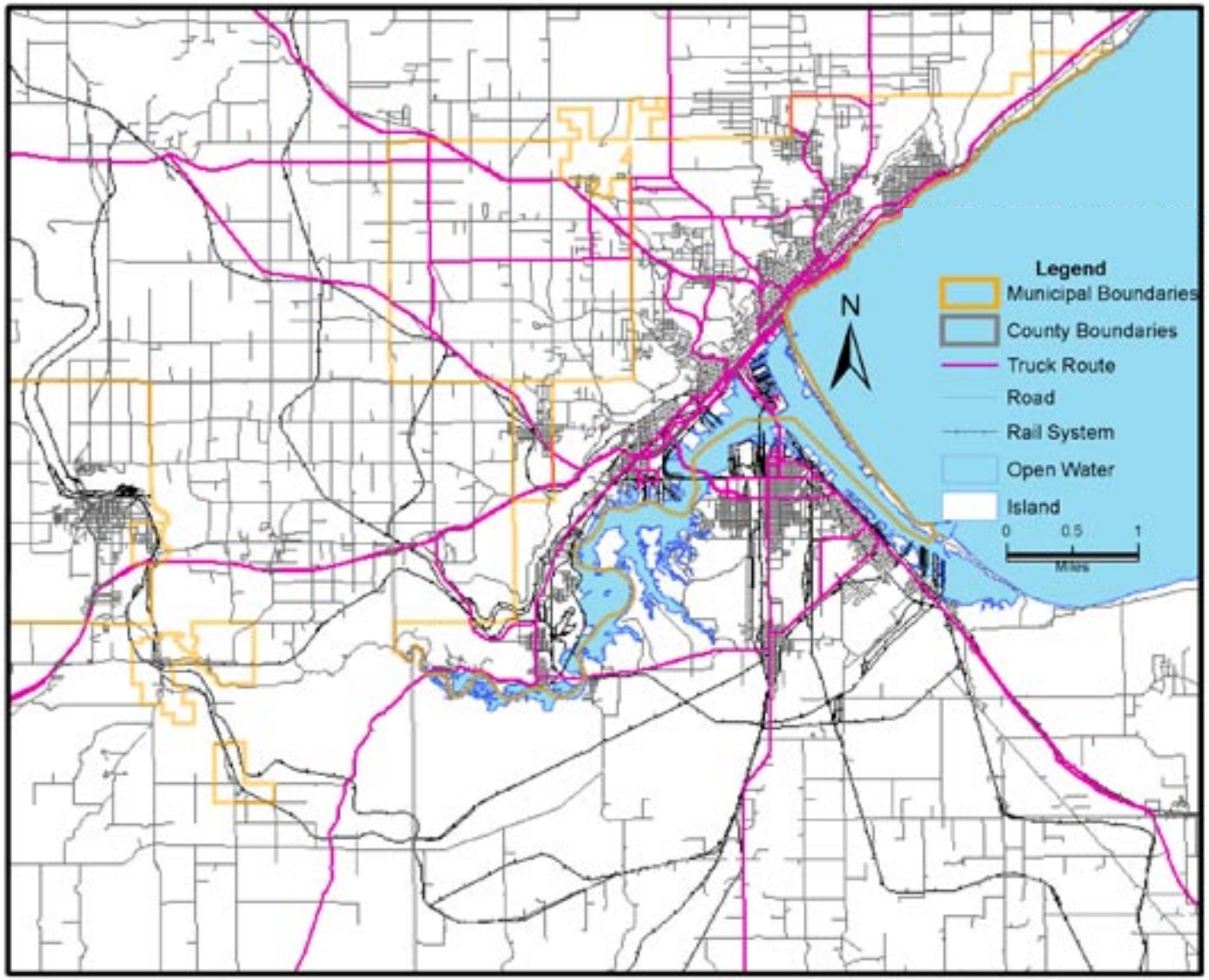
Principal arterials are part of the Federal/State Trunk Highway System. Principal arterials provide mobility for traffic with limited or restricted access to adjacent properties. Principal arterials typically have and average daily traffic count (ADT) greater than 10,000; serve truck traffic; connect to other principal arterials; and have design speeds of 30 to 55 miles per hour (mph). Principal arterials in the Duluth area are U.S. Trunk Highways 2 and 53 and Minnesota Trunk Highways 23, 61 and 194.

Minor arterials offer motorists more access, but have reduced levels of traffic mobility when compared to principal arterials. Minor arterials have a design speed of 30 to 40 mph; typically have traffic volumes over 3000 ADT; and are part of the designated truck and bus routes. Examples of minor arterials in Duluth include; Becks Road, Midway Road, Haines Road, Arrowhead Road, Woodland Avenue, and Superior Street. Map TR-6: MIC Report Map 3.5 Duluth-Superior Truck Routes, on page 9, shows the primary truck routes through the Duluth metropolitan area.

The *collector system* routes traffic between local streets and the arterial system. Collectors typically carry from 5 to 10 percent of total traffic volume and make up 5 to 10 percent of the roadway network. Major collectors move traffic between local streets, often within residential neighborhoods, serving schools, light industry and neighborhood shopping centers. Major collectors carry traffic volumes over 500 ADT and have a design speed over 40 mph. Minor collectors are roadways located outside of the urbanized area. Minor collectors connect residential areas with higher classified roadways.

Local streets make connections to the higher classified roads and permit direct access to adjacent land. Local roads provide the highest level of access but offer the lowest levels of mobility of all roads. Local roads typically account for 60 to 65 percent of the roadway network mileage yet carry only 10 to 30 percent of the vehicular traffic.

Figure TR-6: Duluth-Superior Truck Routes



Source: *MIC, 2005, map 3.5*

Roadway service levels and congestion

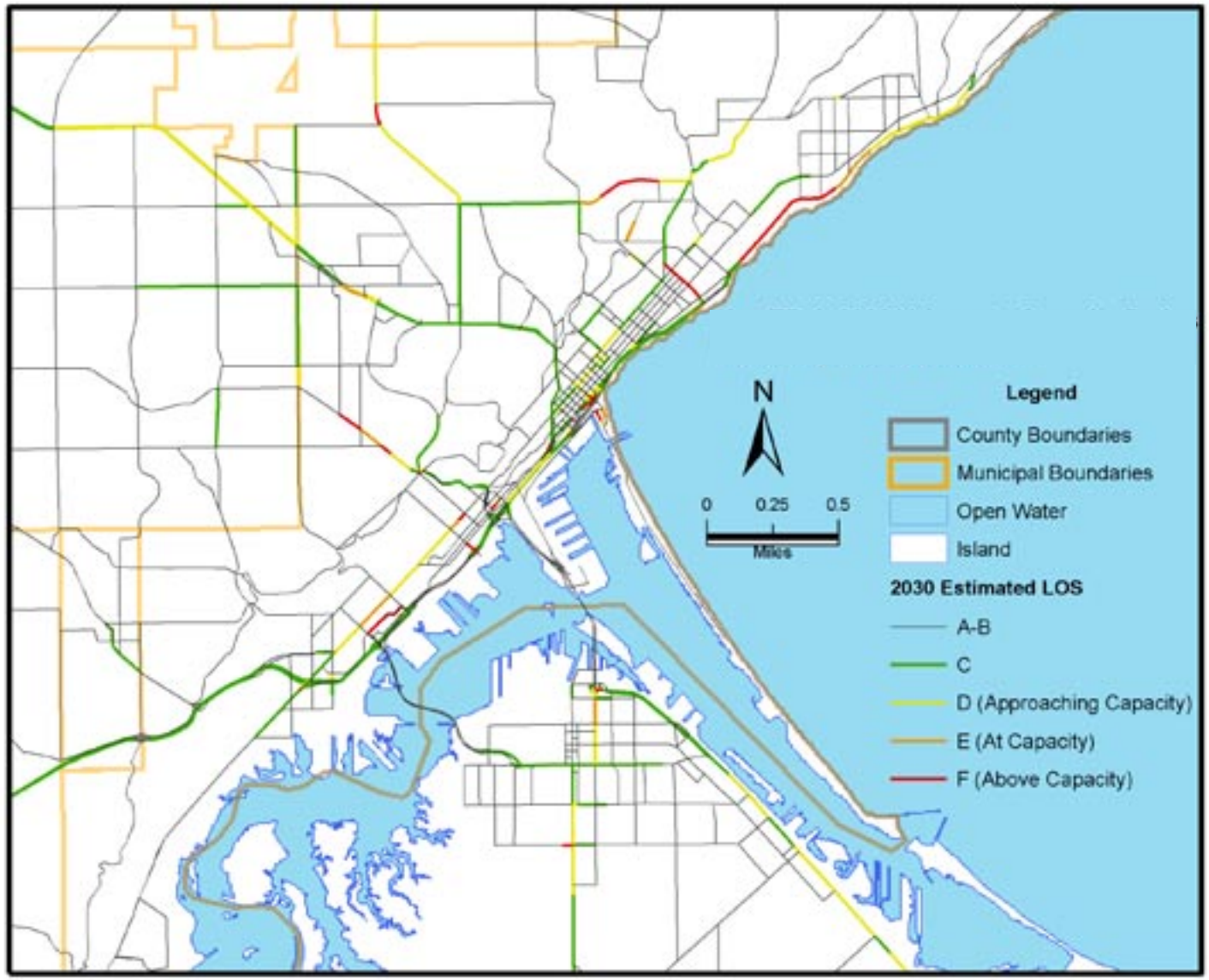
Capacity analysis is a process used to determine: the quality of service provided by a roadway during peak periods; future improvements that will be needed if traffic levels increase; and whether roadways should be upgraded to a higher classification. Capacity analysis results in level of service (LOS) grades. Level of service grades describe vehicle travel in terms of delay by considering speed, travel time, freedom to maneuver, traffic interruptions, comfort and convenience. Levels of service range from LOS A to F; from good to bad, as described in Figure TR-7, Level of Service Descriptions.

The Duluth-Superior Metropolitan Interstate Council has identified deficiencies in the Duluth street network for the year 2020. The deficiencies that are indicated are based on a Level of Service C or lower. The areas that are predicted to have capacity deficiencies, or congestion, in the year 2020 are shown on Map TR-8 2030 Volume to Capacity Ratios Indicating Levels of Service, on page 11. Areas with capacity deficiencies are considered when developing a plan for system improvement projects.

Figure TR-7:
Level of Service Descriptions

Level of Service	Description
LOS A	Free flow. Low volumes and no delays.
LOS B	Stable flow. Speeds restricted by travel conditions, minor delays.
LOS C	Stable flow. Speeds and maneuverability closely controlled due to traffic volumes.
LOS D	Stable flow. Speeds considerably affected by change in operating conditions. High-density traffic restricts flow.
LOS E	Unstable flow. Low speeds, considerable delay, volume slightly over capacity.
LOS F	Forced flow. Very low speeds, volumes exceed capacity, long delays with stop-and-go traffic.

Figure TR-8: 2030 Volume to Capacity Ratios Indicating Levels of Service



Source: *MIC, 2005*

Grand Avenue and West 3rd Street reconstruction

Planned transportation improvement projects

Based on a system needs analysis (the Long Range Transportation Plan), the Duluth-Superior Metropolitan Interstate Council develops a Long Range Transportation Plan Project List. The Project List identifies transportation projects that will be implemented within and near the City of Duluth over the next twenty-five years. Some of the projects already have an identified funding source while others that do not are described as "illustrative projects." The project list is limited to functionally classified roads, although bridges are included for all roads since they are eligible for other state funding programs. Local streets are not included in the Project List.

The transportation projects are categorized as either short-, mid- or long-range.[5]

- Short-range projects are recommended for implementation between 2005 and 2010. Many of these projects have evolved from the City of Duluth Capital Improvements Program (CIP). Active planning and budgeting is underway for short-range projects.
- Mid-range projects are recommended for implementation between 2011 and 2015. These projects are identified in the MIC Transportation Improvement Program (TIP) process and are associated with corridors that may need immediate attention, but the problem or deficiency is not as urgent short-range projects.
- Long-range projects are recommended for implementation between 2016 and 2030. Many of these projects may require a needs assessment or additional analysis.

Figure TR-9, Planned Transportation Improvement Projects, 2005 – 2025, pages 13-18, lists short-, mid- and long-range transportation projects planned by the City of Duluth, St. Louis County and the Minnesota Department of Transportation (MN/DOT).

[5] Ibid, pages 278-279.

Figure TR-9: Planned Transportation Improvement Projects, 2005 – 2025

Location and Description of Project	Estimated Total Cost
City of Duluth projects	
Short Range Projects 2005-2010	
1) 3RD STREET - 21st Ave. W. to Carlton St.: Rehabilitation (MSA)	$2,640,000
2) 10TH STREET - At Miller Creek Bridge: Bridge Rehabilitation	$1,220,000
3) BRISTOL STREET - At Keene Creek Bridge: Bridge Rehabilitation	$300,000
4) GRAND AVENUE - From I-35 to Carlton St.: Rehabilitation (MSA)	$2,910,000
5) MALL DRIVE - At Miller Creek Bridge: Bridge Rehabilitation	$300,000
6) OXFORD STREET - At Tischer Creek Bridge: Bridge Rehab.	$310,000
7) SKYWALK EXTENSION PLAN - From Lake Ave. to 5th Ave. E. (a total of 5 skywalks) (MSA)	$2,489,000
8) SUPERIOR STREET - From 38th Ave. W. to 40th Ave. W.: Construct New Street	$400,000
9) 2ND STREET BRIDGE - at Chester Creek: Bridge Rehabilitation	$676,000
10) SUPERIOR STREET - Bridge at Chester Creek: Bridge Rehab.	$385,000
11) CARLTON STREET - Grand Ave to Michigan St.: Reconstruct	$513,000
12) WEST MICHIGAN STREET - 13th Ave. W. to Mesaba Ave. Rehab.	$800,000
13) 14TH AVENUE EAST - London Rd. to 3rd St.: Rehabilitation	$290,000
14) WEST MICHIGAN STREET - Carlton St. to 21st Ave W.: Recondition	$320,000
15) GLENWOOD STREET - Jean Duluth Rd. to 60th Ave E.: Recondition (MSA)	$2,731,000
16) 6TH AVENUE EAST - 2nd St. to 3rd St.: Recondition (MSA)	$250,000
17) ANDERSON ROAD - Chambersberg Ave. to Haines Rd.: Reconstruct (MSA)	$1,450,000
18) 2nd STREET - Mesaba Ave. to 21st Ave. E.: Recondition	$641,000
19) OXFORD ST., LIVINGSTON AVE., GLENWOOD ST. - Woodland Ave to Jean Duluth Rd.: Reconstruct (MSA)	$2,500,000
20) WOODLAND AVENUE - From Kent to Snively: Rehab. (MSA)	$860,000
21) DAVIS HELBERG DRIVE (ARTHUR AVE.) - From Garfield to Port Terminal Drive (MSA)	$4,315,000
22) BIKE SIGNAGE - From Duluth Neighborhoods to the City of Proctor: Enhancement; Phase 2 Bike Route Signage	$60,000
23) LAKEWALK EXTENSION PHASE 2 - From 36nd Ave. E. to 47th Ave. E.: Enhancement; Construct New Trail	$600,000
24) LAKEWALK EXTENSION PHASE 3 - From 47th Ave. E. to 60th Ave. E.: Enhancement; Construct Trail Extension	$600,000
25) DULUTH WAYFINDING PLAN IMPLEMENTATION - Post consistent locational wayfinding signage; *40 Vehicular Directional ($3,600 unit); *3 Gateway Identifier ($2,880 unit); *30 Pedestrian Directional ($2,700 unit); *10 Pedestrian Map/Kiosk ($2,160 unit); *5 Parking Identifier ($1,260 unit)	$261,540

26) MILLER HILL CORRIDOR S.T.H. 194/T.H. 53 - Miller Hill Corridor: Intersection and Access Improvements; Burning Tree, Maple Grove & Sundby Roads (MSAS reclass)	$2,283,692
27) DULUTH SAFE ROUTES TO SCHOOL IMPLEMENTATION - Implement school area roadway improvements as identified in the Duluth SR2S Plan 2005	Not Available
TOTAL	$30,105,232
Mid Range Projects 2011-2015	
28) CONGDON BOULEVARD PHASE 2 - Various locations along the shoreline: Erosion Control	$700,000
29) CONGDON BOULEVARD PHASE 3 - Various locations along the shoreline: Erosion Control	$600,000
30) MINNESOTA AVENUE - From Aerial Lift Bridge to Sky Harbor Airport: Reconstruction (MSA)	$3,000,000
31) 21ST AVENUE EAST - Superior St. to Woodland Ave.: Rehabilitation (MSA)	$1,000,000
32) 1ST STREET - Mesaba to Piedmont: Rehabilitation (MSA)	$2,500,000
33) 27TH AVENUE WEST - 3rd St. to Skyline: Rehabilitation	$1,500,000
34) CENTRAL AVE - I-35 to Grand Ave.: Rehabilitation (MSA)	$750,000
35) BRISTOL ST. - Grand Ave. to Central Ave.: Rehabilitation (MSA)	$300,000
36) DOWNTOWN DULUTH 1ST & 2ND ST - Downtown Brick Pavers	Not Available
37) 47TH AVENUE EAST - Superior St. to Glenwood	$1,500,000
Mid Range Enhancement Projects 2011-2015	
38) COMMONWEALTH BUSINESS DISTRICT STREETSCAPING - Business District: Enhancement Streetscaping (MSA)	$700,000
39) LAKEWALK EXTENSION PHASE 4 - From 60th Ave. E. to Hwy 61	$600,000
40) LONDON ROAD STREETSCAPING - From 10th Ave. E. to 26th Ave. E.	Not Available
41) SEVEN BRIDGES ROAD - Superior St. to Skyline Dr.: Rd. Rehab.	$305,000
42) LINCOLN PARK DRIVE - Road Rehabilitation	$300,000
43) OLD HARTLEY ROAD TRAIL - Within Hartley Park: Enhancement; Construct New Trail	$80,000
44) WOODLAND AREA TRL - From Northfield St to Fairmont St: Enhancement; Construct New Trail	$230,000
45) AERIAL LIFT BRIDGE PRESERVATION - Structural Maintenance and Painting	$3,800,000
46) SKYLINE PARKWAY CORRIDOR PRESERVATION - Entire corridor: Preservation & Reconstruction	$5,000,000
47) MUNGER TRAIL EXTENSION - 75th Ave. W. to Canal Park	$4,000,000
48) TRINITY ROAD EXTENSION - From Hwy 53 to Arrowhead Rd.: Construct roadway extension	$2,500,000
49) WASECA INDUSTRIAL ROAD - From 61st Ave. W. to Grand Ave.: Construct roadway extension	$960,000
50) KENWOOD CONNECTOR - Determine roadway to connect Kenwood and the East Hillside	$2,500,000
51) ARROWHEAD ROAD - Kenwood to Rice Lake Rd.: Rehabilitation	$3,000,000
52) SUPERIOR STREET - 6th Ave. W. to 6th Ave E.: Rehabilitation	$1,500,000
TOTAL	$37,325,000

Long Range Projects 2016-2030	
53) SUPERIOR STREET - 10th Ave. E. to 21st Ave E.: Rehabilitation (MSA)	$1,500,000
Long Range Illustrative Projects 2016-2030	
54) SUPERIOR STREET: DOWNTOWN STREETSCAPE - From 6th Ave. W. to 4th Ave. E.	$8,900,000
	$10,400,000
St. Louis Co. Project	
Short Range Projects 2005-2010	
1) BECKS ROAD (CSAH 3) - .1 mile south of Haile Road to the Blacktop Plant: Reconstruction	$1,200,000
2) MAPLE GROVE ROAD (CSAH 6) - Westberg Road to T.H. 53: Complete Rebuild	$4,934,642
3) WOODLAND AVENUE (CSAH 9) - Arrowhead Road to Anoka Street: Mill & Overlay; Preservation	$720,000
4) 2ND STREET (CSAH 11) RR XING IMPROVEMENT - CN xing in Proctor 800' W. of TH #2: Safety	$250,000
5) MIDWAY ROAD (CSAH 13) - Thompson Hill Road to T.H. 2: Reclaim & Overlay/Safety	$2,800,000
6) MUNGER SHAW ROAD (CSAH 15) - T.H. 53 to Twp. Rd. 5641 (Bachelor Rd.): Reclaim & Overlay	$825,000
7) MCQUADE ROAD (CSAH 33) - T.H. 61 to 1 mile north: Reclaim & Overlay	$125,000
8) HOWARD GNESEN RD (CSAH 34) - From 0.36 mi N. of Arrowhead Rd to Martin Rd: Rclm & Ovrly	$720,000
9) SNIVELY ROAD (CSAH 37) - From CSAH 9 (Woodland Ave.) to Glenwood St.: Preservation	$850,000
10) HOMESTEAD RD (CSAH 42) - CSAH 61 to County Rd 231 (W. Knife River Rd.): Reclaim & Ovrly	$810,000
11) RYAN/KORKI ROAD (CSAH 43) - From CSAH 50 (Ryan Rd.) to CSAH 42 (Homestead Rd.): Preservation	$525,000
12) LAVAQUE ROAD (CSAH 48) - CSAH 6 to T.H. 53: Reconstruction	$2,400,000
13) MORRIS THOMAS ROAD (CSAH 56) - CSAH 98 (Canosia Rd.) to CSAH 13 (Midway Rd.): Reclaim & Overlay	$640,000
14) 57th AVE. W. & HIGHLAND ST. (CSAH 89) - Cody Street to Skyline Parkway: Reconstruction	$2,000,000
15) HAINES ROAD (CSAH 91) - Int. of Piedmont/Hermantown & Int. of Anderson; Traffic Signals	$425,000
16) HAINES ROAD (CSAH 91) - DM&IR RRXG & Morris Thomas Road (CSAH 56): Reconstruction	$5,000,000
17) HAINES ROAD (CSAH 91) - Morris Thomas (CSAH 56) to Airport Road: Mill & Overlay	$1,800,000
18) CALVARY ROAD (COUNTY ROAD 234) - Rice Lake (CSAH 4) to Howard Gnesen (CSAH 34): Reclaim & Overlay	$360,000
19) SEVILLE ROAD (COUNTY ROAD 694) RRXG IMPROVEMENT - CN xing 0.4 miles east of CSAH 98 (Canosia Road): Safety	$135,000
20) ST. LOUIS RIVER RD. (COUNTY ROAD 696) RRXG IMPROVEMENT - CN xing 0.2 miles east of CR 223 (Munger Shaw Rd.): Safety	$175,000
21) GUARD RAIL IMPROVEMENT - Various locations in South St. Louis County: Safety	$200,000
22) GUARD RAIL IMPROVEMENT - Various locations in North St. Louis County: Safety	$400,000
Short Range Illustrative Projects 2005-2010	
23) 46TH AVENUE WEST - 8th Street to 40th Avenue West: New Road Connector	Not Available
	$27,294,642

Mid Range Projects 2011-2015	
24) RICE LAKE ROAD (CSAH 4) - Pecan Avenue to Arrowhead Road: Mill & Overlay	$532,500
25) RICE LAKE ROAD (CSAH 4) - Arrowhead Road (CSAH 32) to Martin Road (CSAH 9): Mill & Overlay	$1,350,000
26) RICE LAKE ROAD (CSAH 4) - Martin Rd. (CSAH 9) to Thompson Lake Rd.: Reclaim & Overlay	$2,500,000
27) MAPLE GROVE ROAD (CSAH 6) - TH #33 to TH #2: Reconstruction	$3,600,000
28) MARTIN ROAD (CSAH 9) - Midway Road (CSAH 13) to Lavaque Road (CSAH 48): Mill & Overlay	$1,125,000
29) MARTIN ROAD (CSAH 9) - Rice Lake Rd. (CSAH 4) to Arnold Road (CSAH 36): Mill & Overlay	$1,125,000
30) MARTIN ROAD (CSAH 10) - Arnold Road (CSAH 36) to CSAH 37: Mill & Overlay/Drainage	$790,000
31) LAVAQUE BYPASS RD. (CSAH 48) - T.H. 53 to Martin Road (CSAH 9): Reclaim & Overlay	$450,000
32) ARLINGTON AVENUE (CSAH 90) - State T.H. 194 to CSAH 32: Reconstruction	$2,000,000
TOTAL	$13,472,500
Long Range Projects 2016-2030	
33) STARK ROAD (CSAH 11) - Ugstad to Midway Road (CSAH 13): Reconstruction	$1,500,000
34) THOMPSON HILL RD. (CSAH 14) - Lindahl Rd. (C.R. 898) to Skyline Blvd.: Rclm & Ovrly	$260,000
35) ARNOLD RD (CSAH 36)-Martin Rd(CSAH 10 to Lismore Rd (CSAH 43): Rclm & Ovrly	$750,000
36) JEAN DULUTH RD (CSAH 37 -Zimmerman Rd (CSAH 43) to CSAH 44: Rclm & Overlay	$800,000
Long Range Enhancement Projects 2016-2030	
37) Gitchi-Gami Connector - Bike Trail Connector from Lester River to Two Harbors: Enhancement	Not Available
Long Range Illustrative Projects 2016-2030	
38) Martin Road Connector - Midway Road to T.H. 61: Construct new road connector	Not Available
TOTAL	$3,310,000
State of Minnesota Projects	
Short Range Projects 2005-2010	
1) T.H. 2/I-35 - Near the Junction of TH 2 & I-35; Paint Br. #'s 69849, 69850, 6888	$573,000
2) T.H. 2/I-535 - Bong & Blatnik Bridges in Duluth, Deck Crack Sealing	$514,000
3) T.H. 2 - Kingsbury Creek to Jct. I-35, Pavement Replacement	$228,000
4) T.H. 23 - Grand Avenue Urban Reconstruction	$2,200,000
5) T.H. 23 - Near the Jct of I-35; Replace Br #'s 88544 & 88545 over Kinsbury & Keene Cr	$400,000
6) I- 35 - I-35 Northbound over TH 2 Eastbound, Paint Bridge # 69848	$49,000
7) I- 35 - Over Grand Avenue & Ramsey St in West Duluth; Paint Br #'s 69879 & 69880	$2,774,000
8) I- 35 - Between 40th and 27th Avenue West & Near Garfield Avenue; Pavement & Box Beam Barrier Replacement	$3,262,000
9) I- 35 - Near 22nd Avenue West, Bridge Rail Repair	$3,573,000
10) I- 35 - Near 22nd Avenue West, Bridge Painting	$7,567,000
11) I- 35 - Garfield Avenue to 26th Avenue East; Concrete Pavement Repair	$998,000

12) I- 35 - Becks Rd to Grand Ave, Concrete Pavmnt Repair, Shouldering, Guardrail Repair	Not Available
13) T.H. 53 (TRINITY RD) - Piedmont Ave to Miller Mall, Addtnl travel lane with turn lanes (exp. to 4-lane with turn lanes)	$12,500,000
14) T.H. 53	$272,000
15) T.H. 53 - Trinity to Kohl's Intersection/Access Improvements (Mn/DOT Share)	$6,136,000
16) T.H. 53 - Miller Creek: Bridge Replacement	$214,000
17) T.H. 53/194 - Mn/DOT Share of Locally Initiated Access Improvement Projects	$625,000
18) T.H. 61 - Tisher Creek: Bridge Improvement	$315,000
19) T.H. 61 - 26th Avenue East to Superior Street, Resurfacing	$1,259,000
20) I- 535 - Blatnik Bridge to Junction I-35, Concrete Pavement Repair	$338,000
TOTAL	$45,297,000
Mid Range Projects 2011-2015	
21) T.H. 2 - Junction of TH 194 to Proctor (MIC Portion), Mill & Overlay	$1,300,000
22) T.H. 2 - Bong Bridge, Deck Overlay and Paint	$4,150,000
23) T.H. 2 - At the Junction of I-35, Paint Br #'s 69101, 69102, 69109	$1,848,000
24) T.H. 23 - 123rd Avenue West to 1.1 Miles East of Junction TH 39, Pavement Reclamation	$1,283,000
25) T.H. 23 - USS Creek in West Duluth, Culvert Replacement	$906,000
26) T.H. 23 - 1.4 Miles North of Junction TH 39, Replace Br #7622	$1,200,000
27) I- 35 - Becks Road to Central Avenue, Unbonded Concrete Overlay	$9,000,000
28) I- 35 - Central Avenue to 40th Avenue West; Concrete Pavement Repair	$354,000
29) I- 35 - In West Duluth, Redeck Br #"s 69880, 69881, 69881N	$8,266,000
30) I- 35 - Under Garfield Avenue, Replace Pavement	$1,058,000
31) I- 35 - 0.9 Miles SW of Junction I-535; Replace Br. #'s 69831 & 69832	$12,613,000
32) I- 35 - 5th Avenue West to Lake Avenue, Mill & Overlay	$220,000
33) I- 35 - Near 26th Avenue East, Replace Pavement	$400,000
34) T.H. 53 - Arrowhead Road/Walmart Intersection	$9,900,000
35) T.H. 53 - West Junction TH 194/Lindahl Road Intersection Revisions;	$984,000
36) T.H. 61 - 26th Avenue East to Expressway	$10,000,000
37) T.H. 194 - T.H. 2 to T.H. 53 (Portion) & Arlington Ave to Mesaba Ave, Mill & Overlay	$900,000
38) I- 535 - North End of Blatnik Bridge to I-35, Replace Pavement	$600,000
TOTAL	$64,982,000
Long Range Projects 2016-2030	
39) T.H. 23 - 93rd Avenue West to Junction I-35, Mill & Overlay	$1,194,000
40) I- 35 - Ugstad Road to Grand Avenue (NB), Reconstruction	$13,090,000
41) I- 35 - Ugstad Road to Grand Avenue (SB), Reconstruction	$21,010,000
42) I- 35 - Boundary Avenue Interchange	$10,632,000
43) I- 35 - Thompson Hill Tourist Information Center Renovation	$2,100,000

44) I- 35 - Mesaba Avenue Interchange Modifications	$5,500,000
45) I- 35 - Grand Avenue to Mesaba Avenue, Concrete Pavement Repairs	$647,000
46) I- 35 - Lake Avenue to 26th Avenue East, Bituminous Overlay	$598,000
47) T.H. 53 - Junction of TH 194 to 0.2 Miles North of the Seville Road; Bituminous Overlay	$1,659,000
48) T.H. 53 - Trinity Road to Lavaque Rd, Additional travel lane NB and SB (expand to 6-lane)	$16,500,000
49) T.H. 61 - 0.15 Miles North of Superior Street to Homestead Road, Bituminous Overlay	$1,468,000
50) T.H. 194 - Trinity Road to Fourth Street, Pavement Repairs	$1,386,000
51) T.H. 194 - Jnct. of TH 53 to Blackman Ave, Access mgmt or 1-way pairs	$16,500,000
52) I- 535 - Blatnik Bridge to Junction I-35, Concrete Pavement Repairs	$190,000
53) I- 535 - Blatnik Bridge to Junction I-35, Reconstruct NB and SB, Add Add'l Lane SB	$2,750,000
TOTAL	$95,224,000

Data source: *MIC Plan, pages 283-301*

State and federal funding for transportation projects

A Transportation Improvement Program (TIP) is developed to implement the Long Range Transportation Plan. The TIP describes the highway, transit, and other projects in the Duluth-Superior area that are recommended for federal funding during the next three years.[6] In the 2006 – 2008 TIP the City of Duluth was responsible for a local match of $1,327,581 for 5 federally funded projects totaling $5,145,320.[7]

State and federal funding is available to the City of Duluth for transportation projects through the following sources:

- **State Highway "Turnback"** – State highway "turnbacks" are a system of old State highway routes through Duluth that have been "returned" to City responsibility. At the time of turnback, the State provides funding for one-time reconditioning or reconstruction of the facility to bring it up to current standards. The project segments and schedule for construction are dependent on available State funds.
- **Municipal State Aid Streets (MSAS)** – One-hundred and thirteen (113) miles of Duluth's streets are designated MSAS. The State provides funding for these streets based on statewide needs and available funding. Typically, these streets are higher volume traffic routes. The City provides local matching funds for construction improvements and provides maintenance. The City annually submits updated information to the State

[6] Ibid, pages 263-265.
[7] *FY 2006-2008 Transportation Improvement Program for the Duluth, Minnesota Urbanized Area*, Duluth-Superior Metropolitan Interstate Committee, July 2005, pages 21-29.

which is compiled in a statewide needs database. The database is the long-range planning tool for distribution of available MSAS funds MSAS funds originate from state gas taxes.

- **County State Aid Highways (CSAH) and County Roads (CR)** – There are approximately 40 miles of St. Louis County CSAH and CR routes through Duluth. State funds from the County State Aid Account (CSAH) pay for safety improvements, reconditioning, or reconstruction projects the 30,000 miles of County State Aid highway system. Funding is determined based on state-wide formula and needs assessment, and are very predictable.
- **Interstate Highway (IH), United States Highway (US) and State Trunk Highway (TH)** – MN/DOT maintains these highway routes. Construction improvements are based on State budget.
- **State Transportation Improvement Program (STIP)** – The federal highway assistance program provides funding for highway and bridge construction, plus specialty projects related to safety improvements, bicycle routes, pedestrian routes, historic or scenic preservation, and aesthetics. All federal funding is coordinated through the STIP. The City of Duluth participates in the Metropolitan Interstate Council (MIC) to set project priorities for federal funding, published annually in the Duluth Area Transportation Improvement Program (TIP). The TIP is submitted to the State for inclusion in the STIP.

Management and maintenance of local streets

Local funding for street reconditioning and reconstruction projects is procured from multiple sources including: The Community Investment Fund; property owner assessments; bonds; and property tax used to fund the annual operating budget.[8] In 1993, the City of Duluth began a street improvement program (SIP) to reconstruct all local streets. The City provides upfront funding for construction with property owners providing reimbursement funding through property assessments. Assessment do not recover all of the costs, however. Utility replacement (water, sewer, gas lines) is covered by another division of the City, Comfort Systems. The Street Improvement Program (SIP) pays for 75 to 80%. Of the remaining 20 to 25%, 75% comes out of the Community Investment Trust Fund, known as the CIT, and 25% is assessed to the homeowner.[9] The selection of street segments is determined by surface condition of the street, need for utility replacements, and neighborhood continuity. Since the

[8] Mark Winson, Duluth City Administrator, 2005.
[9] Mlakar, Pat, Transportation Engineer, City of Duluth, August, 2005.

beginning of the program, 65 miles of local streets have been reconstructed at a cost of $65 million. The estimated cost of the SIP is unknown due to the influence of utility replacement costs, which are highly variable. The best number used for this explanation is $250 to $260 per lineal foot. An average yearly investment is also variable, but going down. Ten years ago, the annual investment was $6 to $7 million. In 2005 it will be $5 to $6 million, not including an estimate for utility replacement, and even less for 2006.[10]

Local funds are also budgeted for maintenance/preservation projects such as: overlays, crack sealing and manhole adjustment/patching. The City spends $100,000 per year on these maintenance/preservation activities. Programmed maintenance helps to keep down replacement costs in the future. Further details regarding funding are included in the City of Duluth Capital Improvement Budget and Five-Year Plan 2005 – 2009. Map TR10, City of Duluth Planned Street Improvements – 2006 - 2008, illustrates the locations of programmed projects.

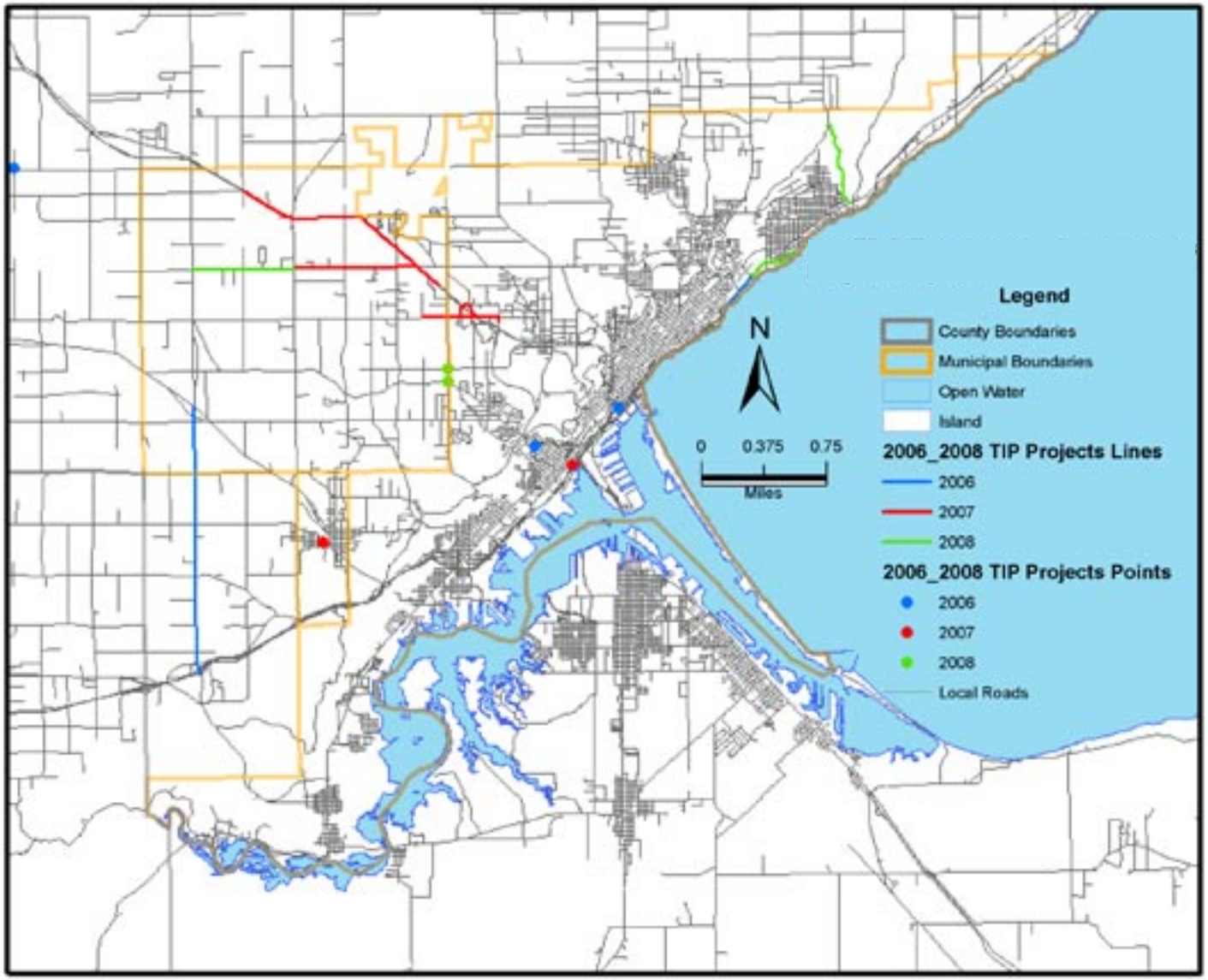
The Community Investment Trust Fund started in 1994 as a funding source for non-capital improvement projects. The fund is based on a percentage of total income from the Fond-du-Luth Casino located in downtown Duluth, owned and operated by the Fond du Lac Band of Lake Superior Chippewa. As an exchange for City property on which to build the Casino, the Tribe agreed to pay a percentage of annual gross revenues into a trust fund. The Community Investment Trust Fund is currently capitalized at $51 million.[11]

Street improvement project consturction, 24th Avenue and 8th Street

Duluth has traditionally funded a portion of its Street Improvement Program (SIP) from the interest on the Trust Fund. The interest gained from the principle has funded the rebuilding of 5 to 6 streets for the past ten years. City engineering staff provides a list of potential street projects and capital costs to the City Council annually. The Council approves an amount to be spent each year for street improvement based on the list of projects. As the return on investments increased and the value of the initial investment grew, the SIP was successful in completing a significant number of projects. Unfortunately, the economy has seen a downturn, resulting in a decrease in available funds. Furthermore, the annual capitalization payments to the City have been accessed for other civic projects, adding to the financial dilemma for street restoration. Fewer projects each year will be funded starting in 2006.[12]

[10] Ibid.
[11] Ibid.
[12] Details from Jim Benning, City of Duluth Transportation Engineer

Figure TR-10: City of Duluth Planned Street Improvements, 2006-2008



Source: *MIC, 2005*

Given the change in the financial outlook and the availability of the necessary funds, the City will be re-prioritizing the SIP program. Instead of rebuilding streets based on the overlay condition of the roads, infrastructure needs under the road will dictate the project priority. If the utilities under a street require up grading in the immediate future, that street project will take priority over a road with greater surface issues.[13]

Pedestrian Ways

Duluth, not unlike other urban areas in the nation, is an auto-oriented city. But still, walking plays an important role in the transportation system. While some trips are completely pedestrian, nearly all automobile and transit trips include a pedestrian segment. On average pedestrians make up only 6 percent of total commuters, although many neighborhoods near downtown Duluth have a much higher percentage. Pedestrian commuters also have the shortest average travel time of all commuters at 10.6 minutes.[14] The Metropolitan Pedestrian Plan (1999)[15], lays out a long list of barriers to pedestrian travel that exist in the Duluth-Superior area, including discontinuous sidewalks, major arterials that are intimidating and dangerous to cross, and the steep terrain of Duluth. It is noted that there are measures to make a city more walkable. The Plan identifies policies, plans, programs, and projects that will improve the pedestrian environment of the Duluth – Superior area. Specific populations, elderly, students, and persons with disabilities, as well as specific locations, UMD and Miller Hill Mall area, are targeted for improvements.

The Duluth-Superior area ranks as the second most dangerous area for pedestrians in Minnesota. This ranking considers the percentage of traffic fatalities involving pedestrians, the number of pedestrians injured by vehicles and the total number of pedestrian fatalities in each metropolitan area each year. The period from 1986 to 1995 saw an average of 3 annual pedestrian fatalities in Duluth and over 11 percent of all traffic fatalities involved pedestrians. Over 70 percent of pedestrian fatalities occur on minor arterials, collectors and local streets combined. From 1994 – 1998 there were 254 motor vehicle/pedestrian accidents in Duluth, and of that number, 105 of the accidents occurred in the Downtown and Central Hillside neighborhood. Seniors, the disabled, and children are at an increased risk of injury as they have a greater reliance on walking than the general population.[16]

[13] Ibid.
[14] Metropolitan Pedestrian Plan for the Duluth-Superior Metropolitan Area, MIC, February 1999, page 8.
[15] Ibid.
[16] Ibid, p. 14-15.

The Lakewalk is one component of the pedestrian network in the metropolitan area, which consists of city sidewalks, the downtown Duluth Skywalk system, and the trail system (i.e. the Lakewalk, Munger Trail). In recent years, the MIC has initiated several plans and studies to identify gaps or deficiencies in the pedestrian network and to assist the City of Duluth's ADA (Americans with Disabilities Act) compliance efforts. In addition to the previously cited Metropolitan Pedestrian Plan in 1999, MIC has also authored the Duluth Curb Ramp Assessment in High-Use Pedestrian Areas report in 2003,[17] and most recently, the MIC has focused on Safe Routes to School planning efforts, creating a more bicycle and pedestrian friendly environment for students.[18]

Bicycle Facilities

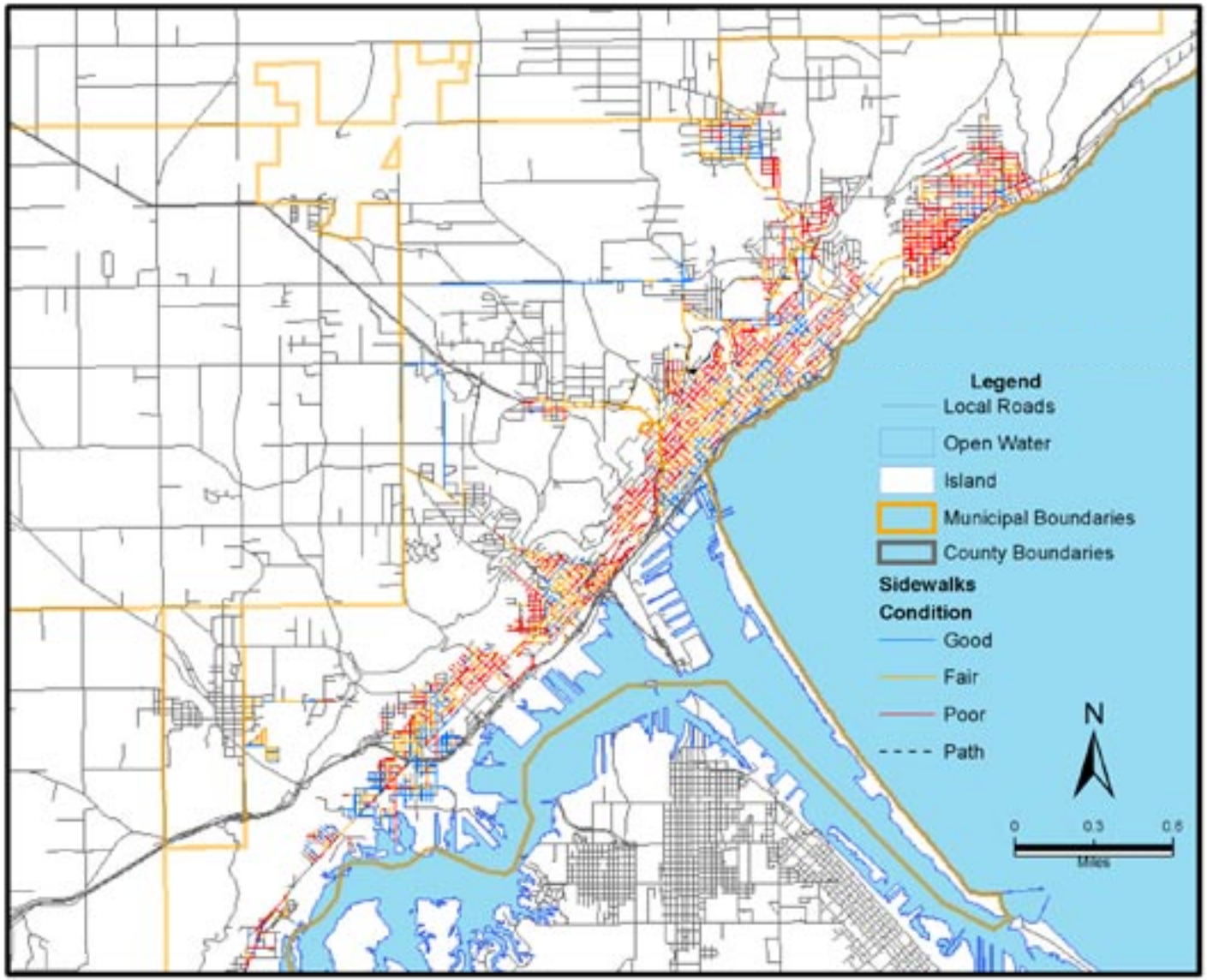
Planning for bicycles as a transportation option is an important component of an overall transportation plan. Comprehensive planning for bicycles began in the Duluth area with the Metropolitan Bikeways Plan (1994).[19] As a direct result of this plan the Osaugie Trail and the extension of the Lakewalk to 26th Ave. East is complete. The Duluth-Superior Metropolitan Bikeways Status Report and Implementation Plan (1999)[20] reviewed the project list from the earlier plan and recommended actions based on project feasibility analysis. As a result of successfully receiving federal transportation enhancements funds, 90 miles of on-street bike routes will be established in Duluth and Hermantown. These routes will link residential, local park, and commercial areas with the Munger Trail and Scenic North Shore 61. The City of Duluth has plans to expand the bike system with connections between neighborhoods and additional destinations. Future projects might include an extension of the Lakewalk to Scenic North Shore 61 and the Munger Trail into Canal Park. The Metropolitan Bikeways Plan – Bike / Roadway Index (2001) included a Bicycle Compatibility Index which indicates a level of service for bicycling on recommended bike routes.

Figure TR-12, Existing and Planned Bicycle Facilities in the City of Duluth, on page 25, lists bicycle facility projects for the City of Duluth. Figure TR-13, Duluth-Superior Metropolitan Bike System, on page 26, illustrates the bikeway connections between neighborhoods and destinations in Duluth.

Willard Munger Bike/Pedestrian Trail, near 50th Avenue West

[17] Duluth Curb Ranp Assessment in High-Use Pedestrian Areas, MIC, 2003.
[18] Duluth-Superior Long Range Transportation Plan: Mobility for People and Freight 2030, Page 33
[19] Duluth-Superior Metropolitan Bikeways Plan, MIC, 1994.
[20] Duluth-Superior Metropolitan Bikeways Status Report and Implementation Plan, MIC, 1999.

Figure TR-11: Pedestrian Facilities (or sidewalks) in the City of Duluth



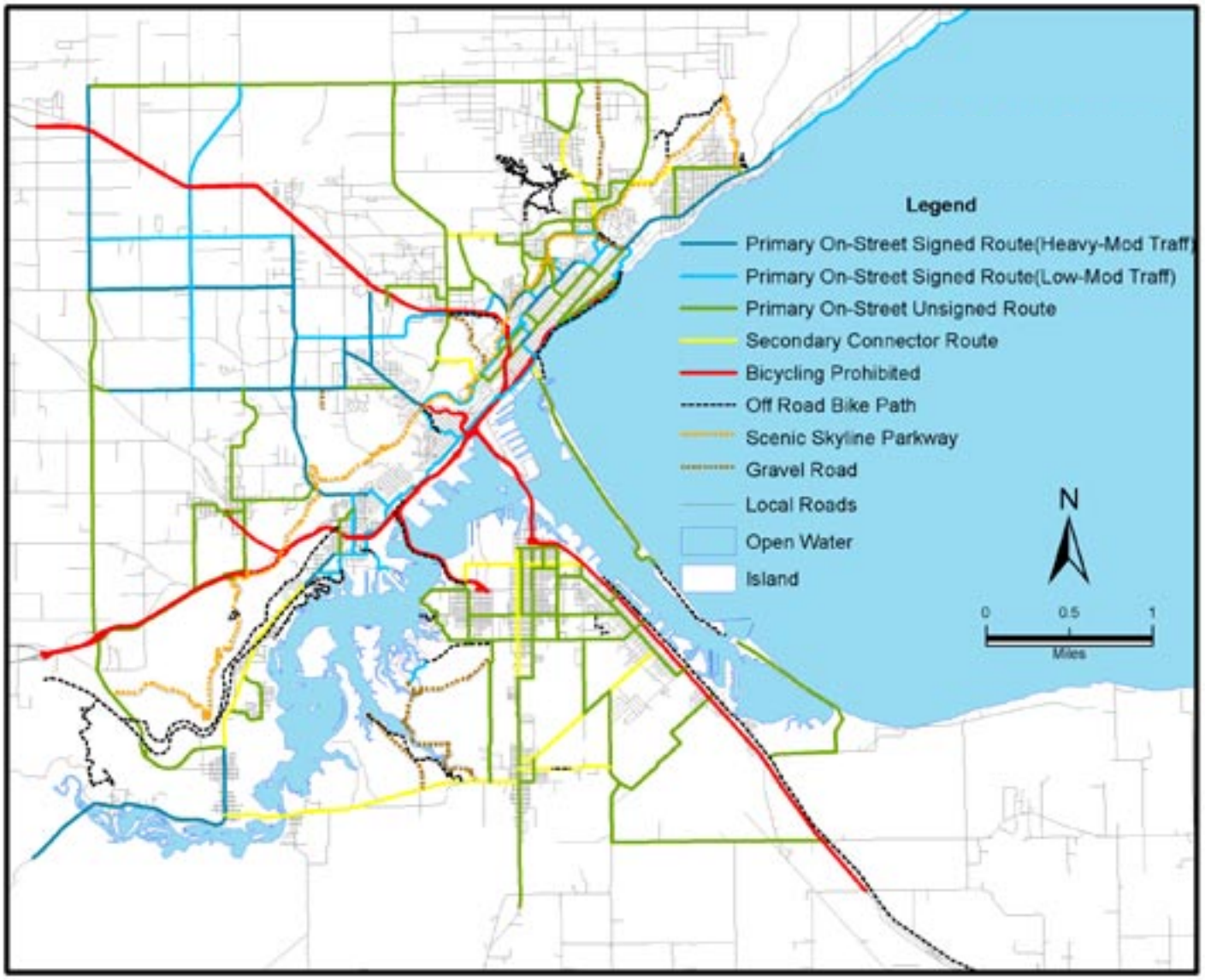
Source: *MIC, 2005*

Figure TR-12: Existing and Planned Bicycle Facilities, 2005

Name of Project	Description
Central Entrance Bike Path	Off street connection to Central High School from nearby neighborhoods
Keene Creek Trail	West Duluth trail currently links Irvin Park in Sprit Valley neighborhood to Grassy Point
Willard Munger Trail	A trail from Hinckley to Duluth is a major regional attraction.
Lake Place Park	Connects the downtown to the Lakewalk and Canal Park
Lakewalk	A transportation and recreation trail following the Lake Superior shore, from Morse Street to 26 Avenue East
Bong Bridge Bicycle/Ped. Path	On Bong Bridge, only bicycle connection between Duluth and Superior
Alex La Veau Trail	From western Duluth through Jay Cooke State Park , to Carlton
I-35 Ped./Bike Overpass	Located near Superior St. and 11th Ave. W, links West Duluth to Canal Park and the Lakewalk
North Shore Drive	On-street, from northeast Duluth, near Brighton Beach, to Two Harbors
Amity Creek Park Trail	East Duluth, near Lester Park, along Amity Creek
Chester Creek Trails	Follows Chester Creek from 4th St. to Skyline Parkway and Kenwood Ave
Hartley Park Trails	East Duluth, just north of UMD, west of Old Hartley Rd., various levels of difficulty
Western Waterfront Trail –	Connecting to northern endpoint of Munger Trail in West Duluth, along St. Louis River
Tunnel Trail	Connects with Munger Trail about 7 miles from Munger Inn, returns behind Lake Superior Zoo
Lester Park Trails	East Duluth, loop trail along Lester River, near entrance of Lester Park at 61st and Superior Street
Lincoln Park	Links the park amenities with the streets of Lincoln Park
Magney Snively	Access to some of the areas oldest standing forests
Mission Creek Trails	Far western Duluth, connects Munger Trail with the Fond du Lac neighborhood
Park Point	Follows the beach along one third of the sandbar
Spirit Mountain	West Duluth, a major recreation area offering hiking, mountain biking, and cross-country trails
Seven Bridges Road Reconstruction	Occidental Blvd to Skyline Pkwy
Bike Route Signage Phase 2	Connects Proctor & Duluth neighborhoods to Phase 1 route
Phase 1: Lakewalk East Trail Extension	Extends from 36th to 47th.
Phase 2: Lakewalk East Trail Extension	Extends from 36th to 47th.

Source: *MIC, 2005*

Figure TR-13: Duluth-Superior Metropolitan Bike System



Source: MIC, 2005

Transit

Transit, as a component of a transportation system, is an important option for commuters, students, and people without cars. Following is a list of transit services providers and brief program descriptions serving the City of Duluth:

- **Fixed route bus service** within the City of Duluth is provided by the Duluth Transit Authority (DTA). The DTA was established in 1970 by the Minnesota Legislature to provide bus service throughout the City of Duluth, Proctor and Superior. The DTA is a public authority of the City of Duluth that is advised by a nine-member citizen Board of Directors. The DTA operates a fixed route system in Duluth, three radial routes in Superior and one intercity route between Duluth and Superior. DTA buses have bike racks to provide links to bike trails, colleges, neighborhoods and shopping areas. The DTA also maintains park and ride lots at the end of the Woodland route at Calvary Road and Chicago Avenue and on the Piedmont route at Haines Road and Piedmont Avenue. All DTA buses are equipped with wheelchair lifts or ramps and many DTA buses are also equipped with kneelers for easy curb access. The two main transit centers are located in downtown Duluth, with hubs located at UMD and Miller Hill Mall, and the Superior transfer point in downtown Superior. Map TR-14, DTA Route System, on page 30, shows the regular and express routes in the Duluth area.
- Additional fixed route bus service is provided by **Arrowhead Transit** which serves the seven county region of northeastern Minnesota. Arrowhead Transit provides service to Hermantown and Duluth with layovers at the Miller Hill Mall.
- The **Port Town Trolley** serves hotels, waterfront attractions, downtown Duluth and Canal Park. Primarily for tourists, the Trolley operates daily from 11 a.m. to 7 p.m. between Memorial Day and Labor Day.
- **Paratransit service**, providing door-to-door service for the elderly, disabled and special needs individuals, is provided by the DTA through STRIDE, a curb-to-curb transportation service that is operated within Duluth, Proctor and Superior. A physician must certify riders with physical or mental disabilities before they are eligible to ride. STRIDE operates through an on-call basis from 6 a.m. to 11 p.m. during the week and from 8 a.m. to 6 p.m. on Saturdays.
- **Inter-regional bus service** is provided by Greyhound Bus Lines, with primary connections to Minneapolis, twice daily. There is a regional bus station located at 4426 Grand Avenue, in Duluth. There is also a stop at the Student Center on the UMD campus. An Amtrak connector bus runs once daily between Duluth and the Amtrak station in St. Paul.

Duluth Transit Authority Bus on Superior Street downtown Duluth

Planning for transit in the Duluth area is conducted by the Metropolitan Interstate Council (MIC), as the MPO for the Duluth-Superior urbanized area, and by DTA staff or hired consultants.

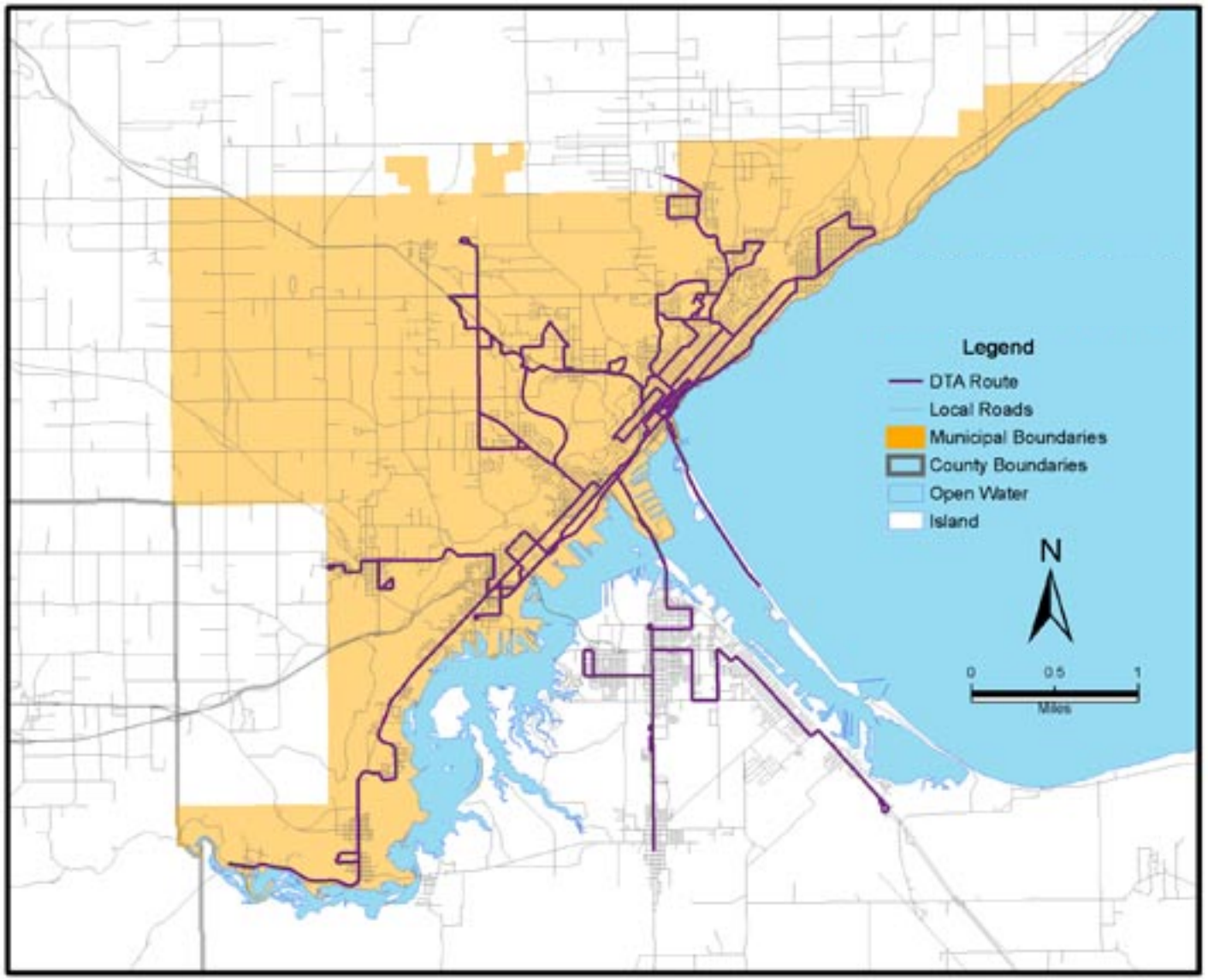
In 1998, MIC developed a Transit Develop Plan for DTA, entitled Duluth / Superior Transit Vision (1998).[21] During the summer of 2004, the DTA produced Transit Vision Update 2004[22] to serve as their updated TDP. Changes in the area's population have impacted the use of public transit. Changes in population density, employment density, housing type, and car ownership have all impacted the use of transit within the Duluth-Superior area. Transit Vision identifies where and how these variables affect transit ridership. Transit works best in high-density areas simply because it can serve more persons while traveling less area. The majority of post World War II development has been low density and suburban, making the provision of traditional fixed route service increasingly difficult and costly. Employment concentration is another critical element to the success of transit service, which explains why many current transit users are downtown commuters. Business development, much like residential development, has sprawled out from the traditional downtown area to locations dominated by the automobile.[23]

Having conducted several small-scale transit studies over the past few years, DTA has a base of information that serves as a TDP framework, notably the DTA Comprehensive Operational Analysis and Downtown Interaction Study[24], a transit demand forecasting model was developed to analyze transit ridership based on computer simulated route changes. The highlights of those recommendations are:

- Expand service to Airpark and the Airport
- Create a West Duluth to Miller Hill Mall Route
- Create a UMD and a downtown circulator
- Establish a hub and spoke route system for the midday, evening and weekends
- Work with the City of Superior to further evaluate route options

[21] *Duluth/Superior Transit Vision*, MIC, 1998.
[22] *Transit Vision Update – 2004*, Duluth Transit Authority, 2004.
[23] *Duluth-Superior Long Range Transportation Plan: Mobility for People and Freight 2030*, Page 33 (DRAFT June 15, 2005) pp.152-153.
[24] Comprehensive Operational Analysis and Downtown Interaction Study, by Abrams Consulting for DTA, 2003.

Figure TR-14: Duluth Transit Authority Route System



Source: *MIC, 2005*

Airports

The Duluth-Superior metropolitan area is served by three airports, providing a mix of passenger and freight transportation services. Map TR-15, *Location of Duluth Area Airports*, on page 33, shows the location of the airports within the region.

The Duluth International Airport (DIA) offers regularly scheduled commercial passenger service by Northwest and Mesaba Airlines. DIA is located five miles northwest of Duluth's central business district on approximately 3,020 acres of land. The east/west runway is 10,512 feet long by 150 feet wide; the northeast/southeast runway is 5,699 feet long by 150 feet wide. Northwest Airlines provides daily service to Minneapolis/St. Paul and Detroit. Regional service is provided by Mesaba Airlines. The DIA is also home to the 148th Fighter Group Minnesota Air National Guard[25].

Duluth International Airport and 148th Fighter Wing, Air National Guard Facility

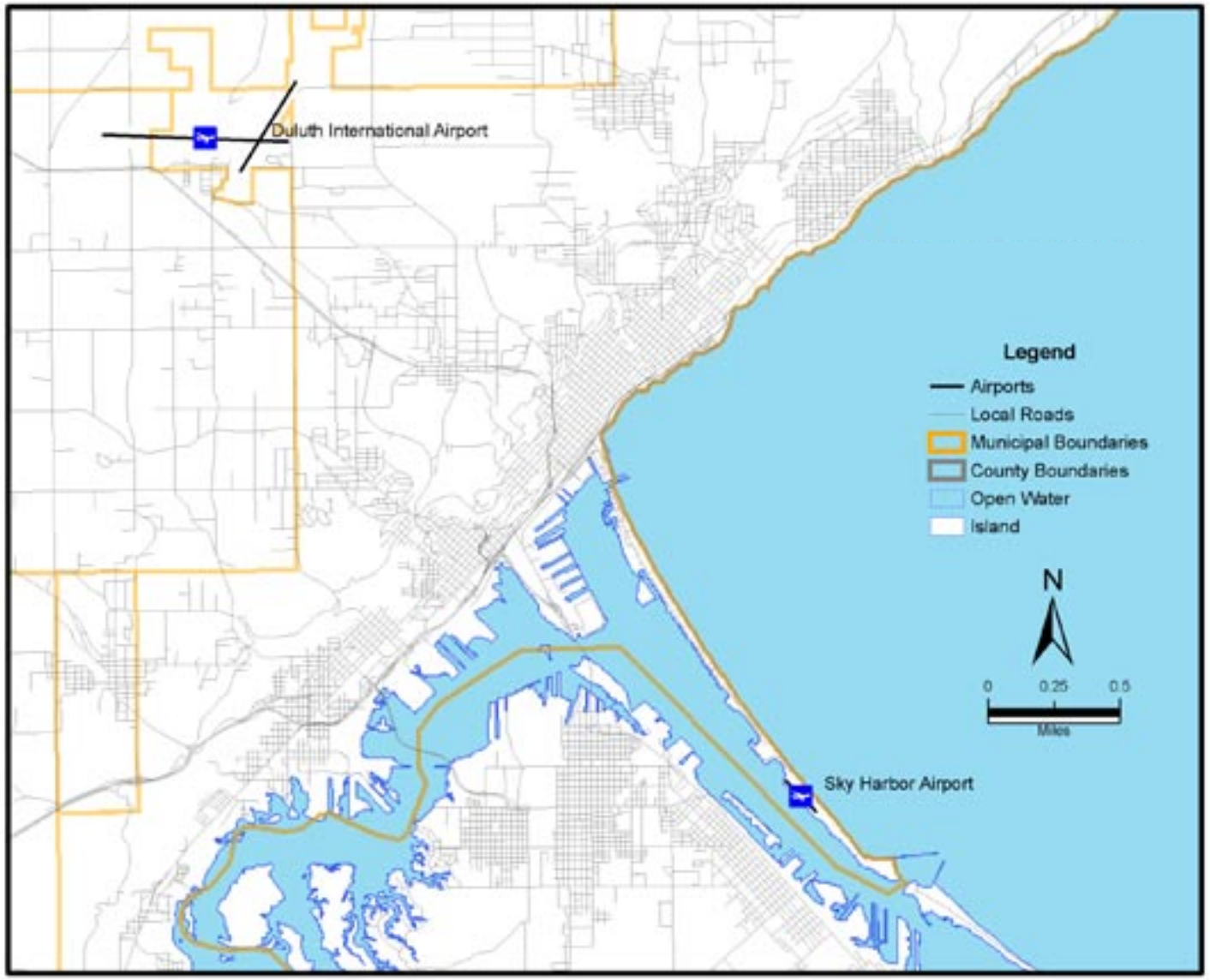
Statistics on Passenger Travel and Freight Usage[26]

- In 2004, approximately 317,000 passengers originated, transferred, or terminated a regularly scheduled flight at DIA.
- DIA services the highest percent of travelers during the month of July. In 2004 11.1% of the total passengers occurred in July and in 2003, 10.1%. However, in 2002, the highest amount of passengers traveled in August, 10.9%.
- DIA served by Fed Ex, UPS, Airborne Express and Velocity Express

The Duluth-Superior Metropolitan Interstate Council (MIC) identified noise impacts adjacent to the DIA in the 1999 *Airport Overlay Zone Plan* (AOZ).[27] Mitigation recommendations included a special overlay zone, information disclosure regulations, aviation easements, new residential subdivision regulations and rezoning of areas to preclude incompatible uses. The potential impact of an expansion to the DIA in the Northwest Development Area was analyzed by the MIC using a Geographic Information System development-ranking model. Indicated by the study were numerous wetlands and poor soil conditions in the Northwest Development Area.

[25] Draft, Duluth-Superior Long Range Transportation Plan, Mobility for People and Freight 2030, Page 102-120
[26] Duluth International Airport, www.duluthairport.com/flights/
[27] Draft, Duluth-Superior Long Range Transportation Plan, Mobility for People and Freight 2030, Page 109

Figure TR-15: Location of Duluth Area Airports



Source: *MIC, 2005*

The *DIA Master Plan* (2000)[28] identifies substantial improvements to the terminal, runways and lighting. Already completed are new runway lights, runway upgrades and improvements to the terminal ramp. Improvements are planned for the fire fighting station to be built. Longer range planning is underway for terminal improvements, stabilization of the safety area of the main runway and an extension to the cross runway. The *DIA Master Plan* also recommends that a detailed field survey be completed on the entire facility. In December 2001, Duluth-Superior Metropolitan Interstate Committee completed the Duluth Airport Land Use Plan, which includes an extensive compilation of land use data.[29]

At the end of Park Point is the *Duluth Sky Harbor Airport and Seaplane Base*, which is a public airport offering general aviation and limited commercial charters. Sky Harbor offers 10 hangar spaces, 24 hour self service credit card fueling, a pilot's lounge, pilot controlled lighting, a water access ramp, repair station, Data Transmission Network (DTN) weather service and an Automated Weather Observer System (AWOS). Sky Harbor accommodates seaplanes on two waterway runways measuring 10,000 by 2,000 feet and 5,000 by 1,500 feet.

The *Richard I. Bong Municipal Airport* in Superior offers general passenger and freight service to the Duluth–Superior Metropolitan area. The recently expanded 5,100 foot runway is capable of handling heavy multi-engine aircraft for corporate travel, recreational flying, emergency medical services and mail and package delivery. This facility accommodates approximately 19,000 take-offs and landings each year.

Rail Lines

Freight railways

The Duluth-Superior metropolitan area is served by four Class I rail companies that are affiliated with the areas regional railroads and a tourist railroad.[30] Rail service transports freight, including bulk commodities to and from the Duluth-Superior Port. Four major rail corridors connect the Duluth/Superior area to the entire U.S., Canada and Mexico. Map TR-16, Duluth-Superior Area Rail System, on page 36, illustrates the local and regional rail system.

[28] Draft, Duluth-Superior Long Range Transportation Plan, Mobility for People and Freight 2030, Page 109
[29] Duluth Airport Land Use Plan, December 2001, Duluth-Superior Metropolitan Interstate Committee
[30] Draft, Duluth-Superior Long Range Transportation Plan, Mobility for People and Freight 2030, Duluth-Superior Metropolitan Interstate Council, Page 25 (Available on www.minnesatarailroads.com /MRRA2004.pdf)

The Duluth/Superior area is a vital link to the national and international freight transportation markets. The following list describes ownership and briefly describes services provided by rail in Duluth.

Class I Railroads[31]

- The largest operator in the Duluth-Superior port is Burlington Northern Santa Fe (BNSF). In the Duluth- Superior area, BNSF has the largest presence of all rail companies. It BNSF delivers large quantities of coal, grain and minerals through out the western two-thirds of the United States. BNSF covers from the Gulf of Mexico to Canada, and in the United States from the Pacific Northwest and Southern California ports to the Midwest, Southeast and Southwest.
- Union Pacific Railroad (UP) has connections to Canada and Mexico and nearly every metropolitan area between Chicago and the Pacific Coast. UP has recently purchased Wisconsin Central (WC), Duluth Missabe and Iron Range Railway (DM&IR). The merger allowed UP to acquire DM&IR section of track, the Interstate Branch, which was the area's busiest section of railway. This track extends from Minnesota over the Oliver Bridge to the Itasca Yard in Southeast Superior. Many of the railroads in the area use this section of track, which has as many as 50 trains a day. The UP now has access through 23 states, 4 major gateways in the United States, and 6 gateways in Mexico. The primary role of UP is to transport freight such as: autos, chemicals, grain, coal, forest products, food and inter-modal traffic.
- Canadian Pacific Railway (CP) railway system feeds directly into America's heartland from the East and West Coasts of Canada. CP also has accesses to Mexico through other railroad affiliates. The CP covers North America with over 13,900 miles of rail, servicing Chicago, NYC, Philadelphia and other major cities through out the U.S.
- Canadian National Railway (CN), the most efficient and profitable Class I rail company owns the key 17-mile stretch of railway in the Duluth-Superior Area. This leader in the rail industry carries freight in all directions, having North, South, East and West lines across North America. CN typically transports grains, chemicals, fertilizers, coals, metals and other materials.

[31] Ibid, Pages175-177.

Rail yards at Port Terminal.

Tourist railways[32]

The North Shore Scenic Railroad provides tourist travel along Lake Superior from Duluth to Two Harbors. The Lake Superior Railroad Museum currently operates the railroad which cover 26-miles. Tours run during the fall and summer months and can accommodate groups of 45 or more.

For additional information on Duluth rail services reference:
http://www.minnesotarailroads.com/MRRA2004.pdf

Maritime Facilities[33]

The Duluth-Superior port is located on the western edge of Lake Superior near the mouth of the St. Louis River. As a significant player in the regions economy the Duluth-Superior port is one of the nations busiest bulk ports and is the Great Lakes largest inland port. According to the Duluth Seaway Port Authority, the port averages nearly 40 million metric tons of annual cargo, ranking the facility first in ore loading nationally, first is grain loading in the U.S. Great Lakes Region, and fifth in coal loading nationally. Iron ore and coal make up approximately 90% of the bulk commodities that are shipped through the Duluth-Superior port. The Duluth-Superior port is only hours from the Twin Cities commodity centers and the location is also convenient to the Minnesota iron mines, western coal and the Canadian grain and lumber market. Principally a transit harbor, the Duluth-Superior port handles a wide variety of goods that are largely produced and consumed outside the area.

The Duluth Seaway Port Authority is an independent public agency created by the Minnesota Legislature in 1955 with a mission to promote the port. Like port authorities and harbor commissions worldwide, it fosters regional maritime and trade development and serves as an advocate for port interests. It strives to protect and increase maritime commerce through marketing, promotional and legislative initiatives and also serves as an economic development agency.

Ports almost always require a second mode of transport to relay the goods to their final destination, and the Duluth-Superior port offer many opportunities for inter-modalism with extensive railroad access, truck routes and three airports. Interstate 35 and 535 and Highways 2 and 53 provide direct truck connections to Minneapolis – St. Paul, Milwaukee, Chicago and the rest of the nation.

[33]Draft, Duluth-Superior Long Range Transportation Plan, Mobility for People and Freight 2030, Duluth-Superior Metropolitan Interstate Council, Pages 190-193 (Also available online at: http://www.duluthport.com)

Duluth has three private marinas and Superior has one public marina and together they offer 260 dry storage spaces and over 700 wet boat storage spaces. Barkers Island Marina in Superior is the largest and only public marina in the area with a total of 420 slips. Spirit Lake Marina located at Spring Street and Waterfront offers 150 dry spaces and 100 wet spaces. The marina also has a travel lift, launch ramp, fuel station and sewage pump facility. Lakehead Boat Basin Inc. at 1000 Minnesota Avenue provides 117 wet spaces, 100 dry spaces, fuel and sewage pump facilities. Harbor Cove Marina offers 108 slips and space to store 12 boats on land.

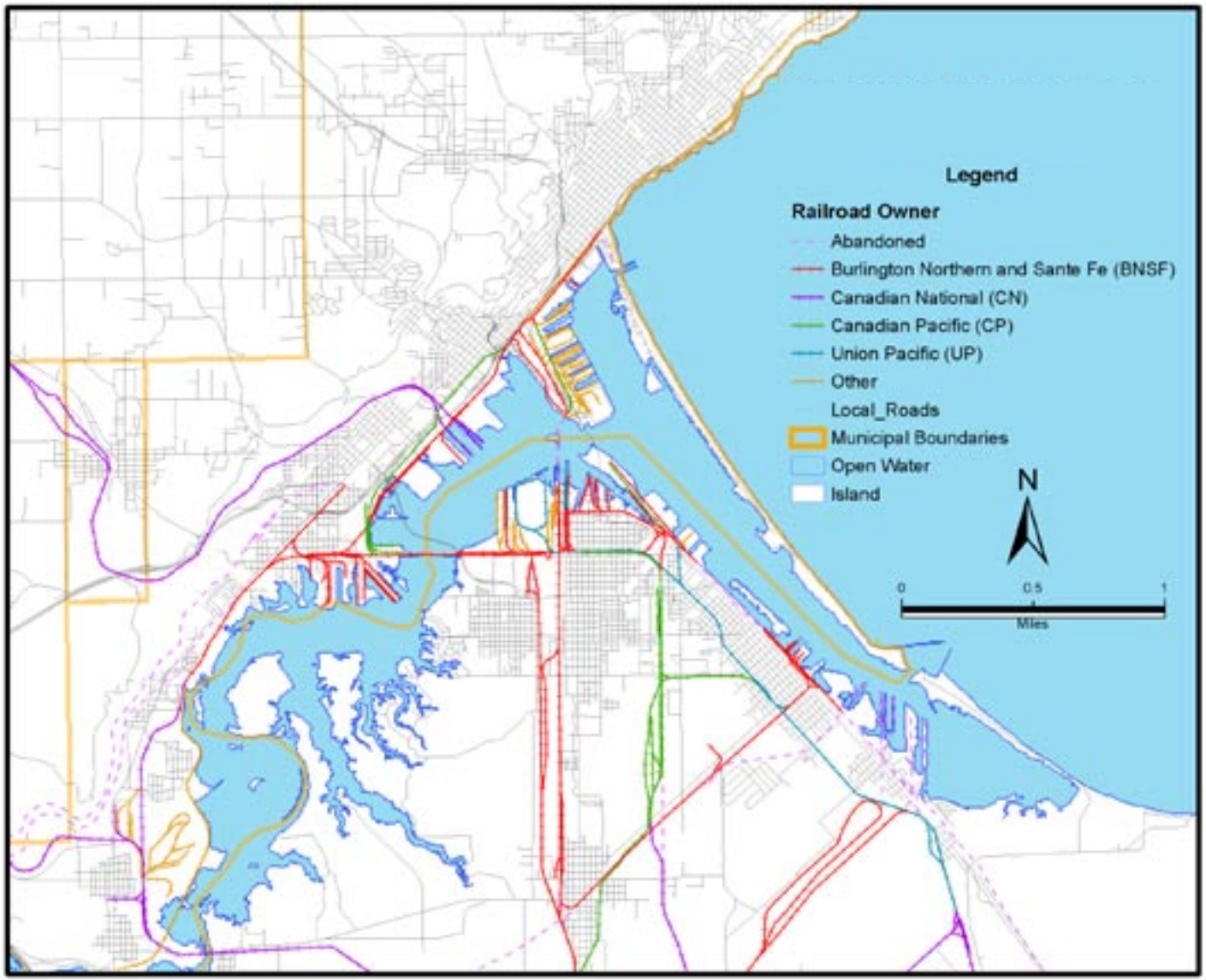
Transportation Issues

Transportation infrastructure is a large land use in the City of Duluth, comprising approximately 14% of all land. Transportation infrastructure is also a primary element of Duluth's role as regional economic center, with regional, national, and international connections in the Interstate system, port and airport facilities, rail connection, and regional recreational trail systems. Transportation systems are a significant element of Duluth's quality of life, including the mass transit system, the local streets, neighborhood and regional bikeways, and pedestrian paths and sidewalks. Transportation infrastructure defines Duluth's connectivity between buildings, neighborhoods, commercial centers, local and regional markets, and other cities. The Comprehensive Plan can help define how the many elements of connectivity affect the welfare of Duluth residents and businesses into the future.

- **Efficient use of road infrastructure** – The use of road infrastructure has changed markedly since the City moved from being primarily an industrial based economy to a diverse economic base including with a heavy tourism influence. The increase in travelers either seeing Duluth as a destination, or passing through to other locations to the north has put a significant strain on the transportation infrastructure. Traffic congestion, coupled with the increased number of vehicles passing through the city tests an already dilapidated street and road base. Not only has personal vehicular traffic risen, the number of bulk transportation vehicles (vans and semi-trailer rigs) has also risen. The areas in need of immediate concern are the most highly congested and are presently under study by City engineers and MIC transportation planners, including the following:
    - London Road continues to experience yearly increases in the number of vehicles and trucks utilizing this transportation artery from the north.
    - The City continues to see a significant increase in Canadian travelers shopping in Duluth and using our services, primarily medical.

[32] http://www.exploreminnesota.com/attractions/8231.html

Figure TR-16: Duluth-Superior Area Rail System



Source: *MIC, 2005*

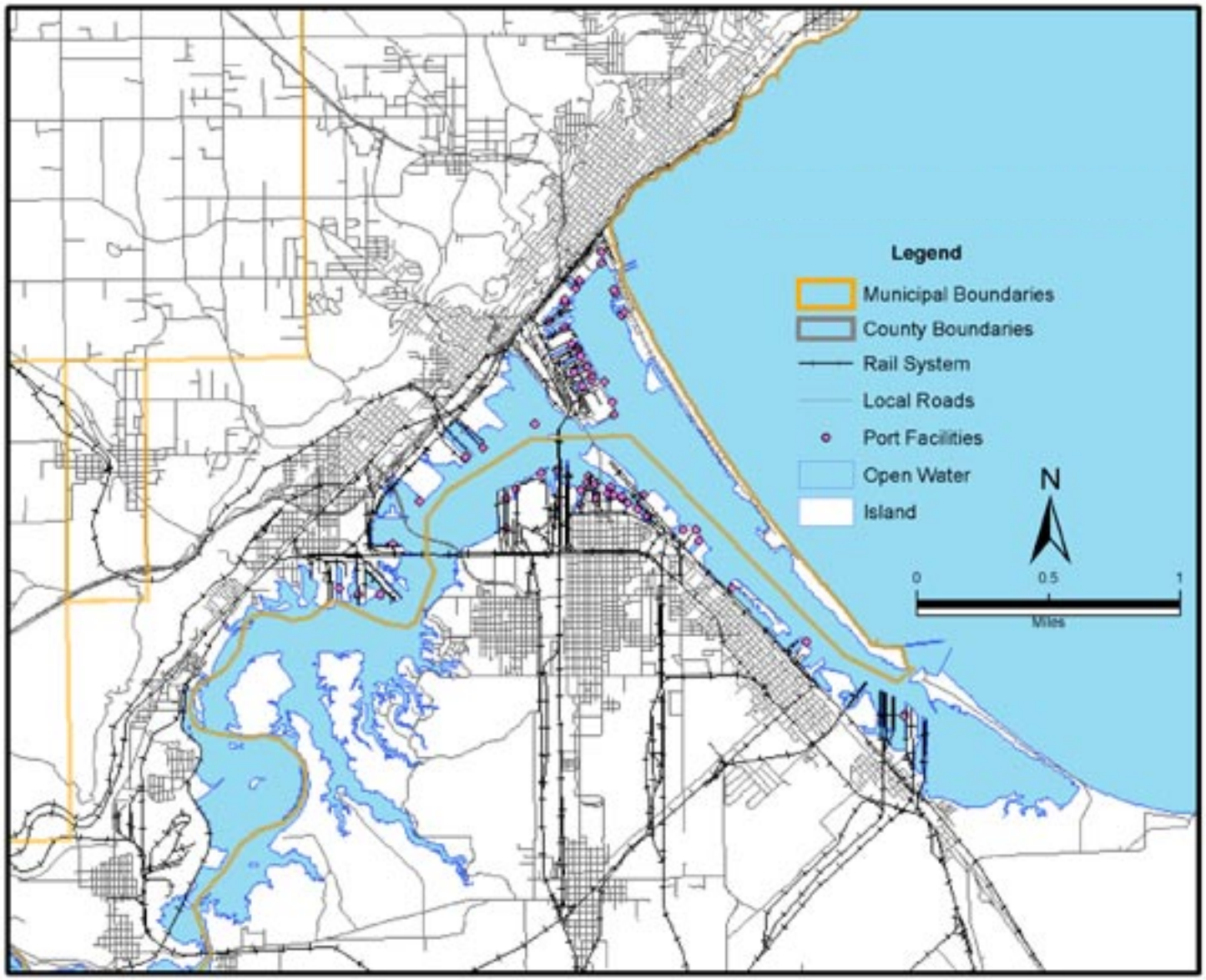
- Tourist peaks during the summer months add to the congestion of this roadway with no viable alternative available to move traffic.
- A more recent issue is the increase in what is termed "cut-through" traffic. This is defined as the traffic that uses small neighborhood connectors to move across the city vs. using the main arteries. Examples of this to be considered would be the extension of Joshua Street in Duluth Heights to alleviate traffic moving at high speeds on Arrowhead and Swan Lake Road.
- The effort to protect regional traffic flows can reduce mobility in neighborhoods. The reconstruction of Miller Trunk Highway (Highway 53) and the planning for redesigning the central entrance requires careful balancing of pedestrian and local traffic flows with the MnDOT's inter-regional corridor goals.

The Comprehensive Plan can identify traffic flow priorities and offer mitigation strategies for maintaining an adequate level of service on Duluth's roads – both local and regional - while recognizing the limitations on continued expansion of roads and lanes.

A ship nears the Duluth Harbor.

- **Enhancing non-motorized connectivity** – In transportation planning, bike, pedestrian and mass transit receive less attention and less funding than the needs of automobiles. The Comprehensive Plan can consider the entire traveling public when recommending transportation investments. Balancing investment between all modes of travel enhances the quality of life in Duluth by offering alternatives to automobile travel, decreasing the need for parking spaces, more closely linking people to neighborhoods and Duluth's natural resources, improving residents' health, and reducing pollution. Pedestrian-friendly development patterns and transportation right-of-ways that encourage pedestrian travel do not occur without forethought and careful consideration of the interaction between autos and people. The Plan can identify land use synergies and pedestrian and bicycle priorities that can guide infrastructure and management decisions for both motorized and non-motorized modes of travel.
- **Expansion of regional infrastructure** – Duluth's seaport, airport, rail connections, and regional highways will evolve over time in response to changing markets, industrial expansion or contraction, and a growing or shrinking tourist industry. Planning for expansion, contraction, or protection of these facilities is critical to meeting the long-range land use goals articulated in the Comprehensive Plan. Rail, seaport, airport, and

Figure TR-17: Duluth-Superior Port



Source: *MIC, 2005*

highway land uses are frequently not compatible with, for instance, residential development. Setting aside areas for expansion, or limiting the growth of incompatible land uses around 'protected' regional transportation infrastructure can be an element of the Comprehensive Plan.

- **Investing in and maintaining streets and highways** - The streets and infrastructure underneath the streets are deteriorating faster than they can be repaired or upgraded. Many of Duluth's local streets are still in need of major reconstruction in order to maintain historic levels of service. New development, business expansion, and redevelopment all place new burdens on the existing street network. Communities are sometimes presented with difficult choices about how to or even whether to maintain the level of service in the face of declining revenues and demands for expanding the system. The Comprehensive Plan can guide road expansion and reinvestment decisions to leverage private investment, minimize long-term maintenance costs, and set reasonable expectations for the level of service on Duluth's street network.

- **Linking transportation decisions to land use impacts** – Traditional transportation analysis was a primarily reactive process focusing on automobile traffic, where traffic levels were measured and demand forecasted along specific roads, becoming the rationale for road expansions or installation of signals or other control devices. Transportation analysis is now becoming more interactive with land use planning, recognizing that traffic demand is a function of many decisions, including available road capacity, availability of alternatives to car trips, and the design of development sites, neighborhoods, and the larger urban form. The Comprehensive Plan can link transportation decisions to land use goals, and more efficiently guide both the preferred development forms and capital expenditures.

- **Protecting multi-modal intra-city accessibility** – Duluth is a 23-mile long city. Travel options across Duluth neighborhoods and regions should include both motorized and non-motorized arterials. Maintaining reasonable access requires overcoming a number of challenges. Topography, weather, physical barriers such as streams, and changing travel patterns create congestion and otherwise limit the access that residents and visitors have to amenities, work locations, and other destinations. Connecting neighborhoods to regional non-motorized trail systems can improve accessibility as well as recreational options. Ensuring that most areas of the City have reasonable motorized and non-motorized arterial travel routes, and keeping those routes arterial in nature, may requires prioritizing inter-neighborhood traffic flow and trail design rather than intra-neighborhood convenience.